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JAN—MAR 1985

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NOTE

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The Military In Indian History*

LIEUT GENERAL SK SINHA, PVSM, ADC

INTRODUCTION

I consider it a great honour to be invited to address this distinguished gathering at this great seat of learning in Himachal. I propose to talk to you about the Military in Indian History. As a subject, history appears to have held little attraction for our ancestors. Great philosophers, poets, reformers, astronomers, statesmen and soldiers flourished in our country, but we did not have any great historians. Court bards or chroniclers can hardly be called historians. To reconstruct our past history, we have to rely primarily on foreign sources like Megasthenes, Arrian Fahien, Hsieun Tsang, Alberuni, Utbi Farishta, Babar, Elphinstone, or Vincent Smith. These foreign sources generally give us biased version of past events. Apart from our ancestors being more interested in spiritual and other intellectual pursuits, a painful fact of our history is that we, as a nation, were often vanquished by our enemies. And the writing of history is more a pastime of the victor than the vanquished.

Despite these constraints, and the fact that the military history of India is a largely unexplored subject, I shall attempt to discuss the role played by the military in the ancient medieval and modern periods of our history, so that we can draw appropriate lessons for the present and the future.

ROLE OF THE MILITARY

The military is the most important instrument available to the State to ensure national security and to execute the Nation's will. The prime responsibility of the military is to defend national sovereignty. Besides defence, the military can also have other roles to play in the life of a Nation. It can embark upon campaigns of conquests and within the country, usurp political power. Today aggression or military conquests are considered dirty words except in Israel. However, in the past it was considered perfectly legitimate to invade foreign countries in search of military glory. Only once, in the time

* Lecture at Himachal University on 8 Dec 82.

of the Great Cholas of Tanjore, India sent expeditionary forces abroad to Burma, Malaya, Java, Sumatra and Sri Lanka converting the Bay of Bengal into a Chola lake. As regards usurping political power, the Indian military has in this respect been very unlike the military in other countries. Throughout our history of thousands of years, there was only one occasion when the military staged a coup and that was in 185 BC, when the Commander-in-Chief, Pushyamitra, assassinated Bidharta the last Mauryan Emperor. Thus committing aggression against foreign territory or taking over political power within the country are something contrary to our military heritage. The Indian military has traditionally always confined its activity to national defence.

ANCIENT PERIOD

GENERAL

I shall not venture discuss the Vedic or the pre-historic period in which no doubt the military played a very notable part. Our two great epics, the Ramayana and the Mahabharath are woven around military exploits. For our discussion today, I shall start from the Fourth Century BC, when we enter a more authentic period of our history.

Starting with Alexander's invasion in 326 BC, India had to face a series of invasions from the North-West and the West. Greeks, Scythians or Sakas, Huns and Arabs invaded in turn. Each one of these invaders was a formidable military power conquering, subduing and ravaging different continents. Their tide of invasion sought to engulf India but they remained confined to the Northern and Western parts of our country and they were all eventually overwhelmed. Despite occasional reverses, the Indian military succeeded in decisively defeating them. This saga of successful defence for over 1300 years has neither received due attention nor adequate appreciation, from the students of Indian history. Perhaps, the poor showing of the Indian military in the medieval era from the Eleventh Century onwards, has obscured our view of these early successes.

GREEK INVASION

Alexander was one of the greatest captains of war, known to history. He subdued the two ancient empires of Egypt and Persia, and then came to India on his unbroken journey of military conquests. In India, he fought only a few border chieftains, and then his troops lost the taste for further conquests. They mutinied on the banks of Beas and forced Alexander to retrace his steps.

Alexander fought many battles but the battle in which his troops suffered maximum casualties was the battle of Jhelum against Poros. This was a most unequal battle. Alexander had conquered the vast area between the Mediterranean and the Indus, and had the resources of Greece, Egypt, Persia and the Indian traitor, Ambhi, at his command. Opposing him was a border Chief, who ruled over a mere forty-mile stretch of territory between the Jhelum and the Chenab. Nevertheless, Poros fought with great gallantry. Outwitted, outnumbered and overwhelmed, he was overwhelmed, but he was not outclassed in valour. His sixty war elephants caused a scare among the Greek soldiers and their mutiny on the banks of Beas was largely due to their reluctance to face the mighty Nanda Army of some 6000 war elephants. The tide of Alexander's invasion was halted at a place close to the present Mirthal bridge in modern Himachal Pradesh. Western historians have tried to explain the mutiny of Greek soldiers at Beas by propounding the theory of the soldiers finding the heat of Indian summer too oppressive and being tired, as also feeling homesick. This is an untenable plea because the mutiny took place in the month of October or November when the climate in these parts is far from oppressive. As regards being tired or home-sick, a large percentage of the Army consisted of new recruits and fresh drafts. Even if we accept that the soldiers were tired, it is strange that they should not have taken the shortest and a known and friendly route for the return journey. Instead they went down the Jhelum and Indus through an unknown and difficult region adding an additional 1000 kilometers to their return journey. It is obvious that after their encounter with Poros and on hearing of the military might of the Nandas, who ruled the territory beyond the Beas, the Greek soldiers got demoralised and did not want to advance further. This has been admitted at least by two Greek historians—Arrian and Plutarch. Immediately after Alexander withdrew from India, Chandragupta Maurya rose and chased out the Greek Governors and garrisons left behind in Punjab. Thereafter, one of Alexander's leading generals, Seleucus, who succeeded to his possessions in Asia, invaded India. This time at Indus, the Indian Army met the Greek Army on more equal terms and inflicted a crushing defeat on the Greeks. Seleucus came to terms and ceded the three provinces of Kabul, Kandahar and Harat, which now became a part of the Mauryan Empire. The achievements of the Indian military against the formidable armies of Greece during the first and second Greek invasions of India, are a remarkable and a golden chapter of the military history of India. After routing the Greeks, Chandragupta established an empire in India, which was more than twice the size of the Empire of the much famed Charlemagne in Europe.

At the time of the decline of the Mauryas, the Greek menace surfaced again on the Indian horizon. Greek armies led by Demetrius, Eucratides and Menander invaded India and overran large parts of the country. Menander, annexed Saurashtra and Mathura, and even advanced upto Ayodhya. These invaders were first defeated by Pushyamitra and later, Menander was decisively defeated by Pushyamitra's grandson, Vasumitra. No military threat from the Greeks materialised again.

SAKAS

Scythians known in India as Sakas were the next major invaders who came to India. They were a Central Asian tribe who had introduced horse archery and were a formidable foe in battle. They overran parts of Northern and Western India. About the same time as the Sunga rulers of Magadh were fighting the Greeks in the North, the Satvahanas of modern Andhra Pradesh were fighting the Sakas in Western India. The great Satvahana king, Satakarni, halted the invaders and decisively defeated them, earning the title of "Dakshinapatha pati". Another Satvahana ruler Gautamputra defeated the Saka ruler Nabaparna. Ultimately Chandragupta II, of the Gupta dynasty, in the Fourth Century AD, annihilated the Sakas in Western India and thereafter the Sakas ceased to remain a political or military power in India.

HUNS

After the Sakas came the dreaded Huns who had proved to be a terror and an irresistible force all over Europe and Asia. The mighty Roman Empire quailed before these barbarians. One branch of these Huns known as the Ephtalites or White Huns descended on the smiling plains of India from the steppes of Central Asia, carrying death and devastation. Crown Prince Skandagupta of the Gupta dynasty inflicted a crushing defeat on the Huns in 455 AD and they hastily withdrew. This was perhaps the only major military defeat suffered by these irresistible barbarians in the Fifth Century. After the decline of the Gupta dynasty in the sixth Century AD, the Huns again invaded India. Toroman and his son Mihirgula conquered Punjab and a portion of Western India. Yasodharman, the King of Malwa, defeated Mihirgula in 528 AD and arrested his further advance. Mihirgula was also finally defeated by Baladitya the ruler of Magadh, and he retired to Kashmir, where he died soon after. About the same time, the Huns kingdom on the oxus was overthrown by the persians and the Turks. These defeats led to the complete eclipse of Hun military power in Asia.

ARABS

The next major invaders were the Arabs. The rapid rise of Arab military power in the Seventh and Eighth Centuries is a remarkable chapter of world history. Within a few years of the death of Prophet Mohammad, the Arabs had over-run Iraq, Iran, Syria, Egypt, North Africa and Spain. The Arab Empire extended from the Atlantic to the Indus and from the Caspian to the Nile.

After earlier Arab attempts to invade Sind had been defeated, Mohd Bin Qasim with a select body of Syrian horse came across the Makran coast to Sind in 712. This expedition succeeded in extending Arab power along the Indus from modern Karachi to Multan. Mohd Bin Qasim, a young lad of 17, showed remarkable qualities of leadership. However, he was greatly helped by the Budhists and some local chiefs who harboured a grudge against Dahir, the ruler of Sind, for his cruelties and for his being the son of an usurper.

For nearly three centuries till they were eliminated by Mahmud Ghazni, the Arabs in India remained confined to the deserts of Sind. In 725, Nagabhata, the Pratihara ruler defeated the Arab Governor of Sind, Junaid. Similarly, Pulekesin Avanijsaraya of Chalukya dynasty defeated an Arab Army at the battle of Navsari and foiled their attempt to enter Gujrat. In the North, Hindu Shahi Kings maintained their rule over Kabul foiling Arab attempts to conquer Afghanistan. When compared with their dazzling victories in Europe, Middle East and Persia, Arab achievements in India were insignificant.

ASSESSMENT

One cannot help but admire the manner in which the Indian military dealt with Greek, Saka, Hun and Arab invasions. Each one of these invading forces represented the leading military power of its time and had won great military victories in Asia and Europe, but in India they were all contained and defeated. Unfortunately full details of the battles fought against these invaders are not available with us. However, the victory of Indian arms reflects great credit on the Indian military leaders of that time. "These leaders appeared to have a clear concept of the geographical frontiers of the country and the need to evict foreigners who had gained a foothold in the country. Even if they were not aware of the modern concept of Nation-State, they certainly were animated by the spirit of preserving the sanctity of Aryavarta or Bharatvarsh—a spirit which seems to have completely evaporated in the later periods of our history. They were also prepared to adopt any superior tactics and or methods used by the enemy

to improve their own mode of warfare. Their adoption of horse archery introduced by the Sakas, is a case in point. It is a great pity that in later years Rajputs discarded horse-archery with catastrophe results to themselves and to the rest of the Nation."

MEDIEVAL PERIOD

GENERAL

We now come to the medieval period of our history which lasted for 800 years, starting from the invasions of Mahmud Ghazni to the rise of British power in India. During this period, India suffered six major invasions. Four of these were primarily for rapine and plunder but the remaining two led to the establishment of Muslim rule over India, first of the Delhi Sultanate and later of the Mughal Empire. These invasions took place when North India was politically fragmented. The six invaders were Mahmud Ghazni, Mohammad Gori, Timur, Babar, Nadir Shah and Ahmed Shah Abdali.

I shall briefly describe the course of events in each of these invasions so that we can analyse the reasons for the repeated debacles suffered by Hindu armies against the invading and occupying Muslim armies. Towards the later part of this era there was a Hindu military renaissance under Shivaji. This led to the rise of Marathas, who after the decline of the Mughal Empire, became the most formidable indigenous military power in India. The tragedies of their defeat at Panipat and later of their rout by the British, meant that India had to remain in servitude for another two centuries upto 1947.

MAHMUD GHAZNI

When Mahmud Ghazni succeeded to the throne of his father Sabuktgin, the three mighty Indian dynasties of the previous two centuries the Palas, the Pratiharas and the Rashtrakutas had bled themselves to death due to persistent mutual wars. North India was now divided into numerous petty kingdoms. In South India, the Cholas were at the height of their political and military power dominating the whole of South-East Asia but either due to a lack of sense of geography or due to total absence of any national spirit, they remained supremely unconcerned and unaffected by all the tragic catastrophies overtaking North India.

It is said that Mahmud Ghazni on ascending his father's throne took a vow to lead an expedition against India, the land of infidels, every year to spread Islam by force and to plunder its rich plains. He led seventeen expeditions and in each military engagement during these expeditions he attained resounding victory. He swept like a

tornado across India with no code circumscribing his destructive zeal and no cannon restraining his barbaric actions. The countryside was subjected to unparalleled burning, massacre and rape with innumerable magnificent Hindu shrines destroyed and thousands of Hindus sold for paltry sums in the slave markets of Central Asia. Ancient holy cities like Thanesar, Mathura and Somnath were reduced to smouldering ruins to satisfy his iconoclastic zeal.

Mahmud Ghazni first defeated Jaypal who had earlier ruled over Kabul and had been defeated twice by his father. After the death of Jaypal, his son Anandpal tried to organise resistance with the help of the other Hindu Rajas of North India. A large army was collected on the banks of the Indus. Seeing this large host Mahmud hesitated to take the offensive. At this 30,000 Khokar tribe in the Hindu army launched a desperate assault against him killing nearly 5000 of his soldiers in a short space of time. Mahmud was on the point of losing the battle when suddenly the battle took a different turn. The elephant Anandpal was riding was struck by several arrows and got out of control fleeing the battlefield. This was taken as a signal of defeat and the Hindu army deserted the battle. Mahmud now launched a vigorous pursuit right upto Nagarkot in Kangra which he besieged and captured. He took away several thousand pounds of gold, silver and precious stones to Ghazni and annexed Punjab. With Punjab now as his base of operations the entire country East of Sutlej lay exposed to his raids and he systematically plundered Thaneswar, Kanauj and Mathura. He heard of the fabulous wealth stored in the temple at Somnath. In 1024 he set out from Multan across 1000 miles of the Thar desert to Somnath in Kathiawad. This remarkable advance through the desert was a great military feat. He captured the holy temple of Somnath, for defending which 50,000 Hindus, sacrificed their lives. The Sivaling and other idols in the temple were broken to pieces and taken to Ghazni to serve as steps for the Jama Masjid there.

A Turkish Army under Ilak Khan invaded the Northern part of Mahmud's kingdom and he was forced to give a respite to India, as he had to go North to deal with the invader. Anandpal wrote a servile letter to Mahmud Ghazni offering him the services of 5000 horses, 10,000 infantry and 100 elephants. Anandpal would not even accept his son Sukhpal back to the fold. He had been forcibly converted to Islam and he wanted to become a Hindu again. In his letter to Mahmud Ghani Anandpal gave out his reason for offering him military help. He wrote, "I have been conquered by you and I do not wish that another man should conquer you". A more stupid

and suicidal course of action is difficult to conceive. Through his shortsightedness, Anandpal failed to take advantage of the one occasion he had to take his revenge against his inveterate enemy. The following year, Mahmud again turned against Anandpal and crushingly defeated him. Here it may be mentioned that the military triumphs of Mahmud Ghazni were due as much to his skilful and calculating generalship as to the utter incapacity and stupidity of his Indian victims.

MOHAMMAD GHORI

After the devastating depredations of Mahmud Ghazni, India enjoyed a respite for a century and a half, before another invader appeared on her North-Western horizon. However, like the Bourbons, the Indians had learnt nothing and forgotten nothing, with the result that Mohammad Ghori found them just as unprepared as Mohumud Ghazni had found.

After having failed in his first expedition and defeated near Mount Abu by the Chalukya ruler, Mularaja Mohammad Ghori advanced through Khyber Pass and annexed Punjab. This did not provoke any of the Indian rulers. However, in 1191 when Mohammad Ghori captured Sirhind, Prithviraj the Chauhan ruler of Ajmer reacted to the threat and assembled a large army of neighbouring Hindu rulers and met the invaders at Tarain near Karnal. It appears that in this battle the numerical superiority of the Hindu army prevailed and Mohammad Ghori was defeated but he managed to withdraw unmolested. He was wounded in battle and his life was saved by the loyalty of a Khilji slave. It is surprising that Prithviraj chose not to pursue and destroy the defeated Muslim army. Mohammad Ghori went back to Afghanistan and after 18 months of thorough preparation returned in 1192 with an army of 120,000 to take revenge. Prithviraj hurriedly assembled an army and met the invader again at the battle field of Tarain. According to Muslim chroniclers, Prithviraj had an army of 300,000 with 3000 elephants but we cannot place much reliance on these figures. Skanda, one of the able generals of Prithviraj who had materially contributed to the victory in the first battle was changed in local military operations elsewhere. Jaichand of Kanauj was inimical to Prithviraj and he had not only kept aloof but is said to have even invited Monammad Ghori to invade India. Prithviraj appeared over-confident of victory and was lulled into complacency by Mohammad Ghori asking for time to consult his brother in Afghanistan before concluding peace. There was much merry making in the Rajput camp that night. The Sultan on the other hand kept

the lights in his camp burning but made preparations for a sudden attack. The Muslim army marched round the Rajput army by night and attacked it in its rear at dawn. There was great confusion in the Rajput camp but the Rajputs somehow managed to overcome the initial surprise. However, Mohammad Ghori gave the Rajputs little respite. Four divisions of light cavalry each 10,000 strong in succession poured arrows into Rajput positions. When charged by the Rajputs these horse-archers would retreat. After successive such encounters, the Rajputs who had not eaten any food due to their orthodox ritual, were fagged out and disorganised by midday. Mohammad Ghori now launched his heavy cavalry of 12000 held in reserve, which completely routed the Hindu Army. One lakh Hindu soldiers are said to have been killed. Prithviraj was taken a prisoner and killed. His capital Ajmer was occupied and its temples destroyed.

In 1194, it was the turn of the traitor Jayachand of Kanauj. Mohammad Ghori defeated him in a battle near Etawah when a chance arrow hit Jayachand and he fell from his elephant. His army of 50,000 soldiers fled the battlefield. Within a decade the whole of North India lay prostrate at the feet of the conquerors and for the next nearly 300 years, the Turko-Afghan dynasties ruled from Delhi. A hundred years later, Alauddin Khilji extended Muslim rule to large portions of South India with an unbroken chain of victories over Hindu armies in Rajasthan, Gujrat and the Deccan.

TIMUR

Timur the ruler of Samarkand who had established a vast Empire in Central Asia decided to invade India in 1398. In his auto-biography, he mentions that he did so for two reasons—firstly, to lead an expedition against infidels and become a Ghazi and secondly to plunder the vast wealth available in the country. He combined in himself the savage ferocity of Chengiz Khan and the fanaticism of Mahmud Ghazni. With an army of 100,000 he crossed into India through the Khyber Pass, killing Hindus, enslaving their women and children and destroying their temples. Soon he was at Delhi without encountering any opposition en route. Sultan Mahmud Shah of Delhi collected a force of 50,000 with 120 elephants to give him battle outside Delhi but this force was decimated in a swift action and Timur occupied Delhi taking up residence at Hauz Khas for some time. At Loni near Delhi he ordered the massacre of 100,000 Hindus and he recalls with glee that his counsellor Mohammad Nasiruddin a man of learning who had never killed a sparrow in his life despatched 15 idolatrous Hindus in compliance of his orders on that occasion. He

returned to Samarkand via Nagarkot and Jammu repeating his atrocities en route. Timur inflicted on India more misery than had ever been inflicted by any conqueror in a single invasion. As a result of his invasion the Tughlak Sultanate at Delhi began to perish with its outlying provinces becoming independent.

BABAR

The next major invader who came to India was Babar, who was a descendent of Timur. In 1524, he readily responded to the invitation of Daulat Khan Lodi Governor of Punjab and Alam Khan the uncle of Sultan Ibrahim Lodi. After annexing Punjab he advanced to Panipat in April 1526 with a force of approximately 25,000. He carefully organised a defensive position based on wagon-carts and ditches. Ibrahim Lodi with some 100,000 troops and 1000 elephants assaulted Babar's positions but Babar's artillery wrought great havoc on the Afghans. The Mughal cavalry launched its famous Tulughma movement and the Afghans were hemmed in from all sides. Ibrahim Lodi was killed. After the battle, Babar launched a vigorous pursuit capturing both Delhi and Agra.

In Feb 1527, Rana Sanga advanced with a large confederacy towards Agra. He captured the Mughal outpost at Bayana and then scattered the relief force sent by Babar. This spread great consternation in the Mughal camp. However, for some inexplicable reason, Rana Sanga remained inactive and lost a precious month. This allowed Babar to bolster up the flagging morale of his troops, draw in reinforcements from Jaunpur and then prepare defences on the same pattern as at panipat. Just before the battle, Rana Sanga's advance guard of 30,000 under Silladi deserted and joined the enemy. Despite this, the Rajput cavalry launched repeated frontal attacks against Babar's defences and the artillery wrought great havoc in Rajput ranks. Rajputs had no artillery and were relying on their cavalry and elephants to break the Mughal defences. By the afternoon, after nine hours of battle when the Rajputs had spent their energy on repeated futile assaults against well prepared defences, Babar released his cavalry reserves. This completed their rout. Rana Sanga was wounded and he later died. Khanwa was a decisive victory and huge towers of human skulls of Rajput soldiers were raised on Babar's orders.

The Mughals were now firmly established as the rulers of North India. There was a brief interlude after Babar's death when Sher Shah drove out Humayun but after Sher Shah, Humayun returned to rule again for a short period. He was succeeded by Akbar who in the

Second Battle of Panipat having defeated Himu, removed all threat to Mughal supremacy for the next two centuries.

After 600 years of agonising and repeated defeats, Shivaji appeared on the stage of Indian history leading a Hindu military renaissance. He defied the Mughal Emperor and the Deccan Sultans, propagating Hindavi Swaraj. "Nearly a hundred years earlier Rana Pratap had defied the Mughal Emperor and made incredible personal sacrifice to uphold his high ideals. He was indeed a great patriot for which he deserves our highest admiration but unfortunately he was not a great General. He conducted his struggle in wilderness and could not achieve any concrete results." Shivaji on the other hand became a great pioneer of a new type of warfare—insurgency. Starting first with guerilla tactics he gradually built up his conventional military strength and except for a set back in operations against Mirza Raja Jai Singh at Purandar, he defeated a large number of Mughal and Bijapur Grandees—Afzal Khan, Shaista Khan, Kartalab Khan, Bahadur Khan, Diler Khan, Mohabat Khan and so on. His last campaign entailing an advance of 600 miles across the Deccan to the eastern coast was indeed a brilliant military operation. Insurgency operations as propagated and practised by Mao Tse Tung in China or Ho Chi Minh in Indo-China were very similar to the technique demonstrated by Shivaji, 300 years earlier. Unfortunately, Shivaji died early and his successors were not of the required calibre. The Maratha movement was sought to be crushed by Aurangzeb through conventional military means. Though successful in conventional operations, the spirit of the Marathas could not be crushed and the flame of insurgency was kept alive through guerilla action. Aurangzeb had to remain in the Deccan for nearly 30 years and it was in Deccan that he died a disappointed and disillusioned man. It has rightly been said that the Deccan ulcer ultimately destroyed Mughal power just as the Spanish ulcer was to destroy French power in Europe, a hundred years later. After the death of Aurangzeb the revival of Maratha power continued and a stage came when the Mughal Emperor at Delhi became a pensioner of the Marathas. The Maratha horse began raiding upto Calcutta in the North East and grazed on the banks of the Indus at Attock in the North West. No doubt Maratha military power suffered a great set back in the Third Battle of Panipat but it was not completely destroyed and within a short time Marathas again became the most formidable indigenous military power in India till they were overwhelmed by the British in the early Nineteenth Century.

NADIR SHAH

India had to deal with two more invasions from the North-West, in the medieval period of its history. These were the invasions

of the Persian ruler Nadir Shah in 1739 and the Afghan ruler Ahmed Shah Abdali.

At the time of Nadir Shah's invasion, we again find India politically disunited and militarily weak. Repeated struggles for succession, the Maratha imbroglio, and the indolence of Mughal rulers at Delhi had eaten into the vitals of the Great Mughal Empire. Nadir Shah over-ran Kabul and advanced to Karnal without opposition. The Mughal ruler Muhammad Shah hastily assembled a force and opposed the Persians at Karnal but in a battle lasting barely two hours, 20,000 Mughal soldiers were slain and the Mughal ruler had to come to terms with the invader.

Nadir Shah now entered Delhi and exacted his share of plunder. The Koh-i-Noor and the fabled Peacock throne plus jewels and goods worth several crores were taken away by him. As a reprisal to the attack on his soldiers, he ordered a massacre of the citizens of Delhi in which many thousands were killed. However, unlike previous Muslim invaders, Nadir Shah did not commit religious atrocities as such. He laid no claim to becoming a Ghazi or a destroyer of infidels—all that he wanted was to enrich himself with plunder. His invasion dealt a death blow to Mughal rule in India. No doubt a Mughal Emperor continued to rule at Delhi for another 100 years but he became a pathetic figure with no power and authority; a virtual pensioner.

AHMED SHAH ABDALI

The last of the major invasions into India from the North-West was that of Ahmed Shah Abdali, who established himself as the ruler of Afghanistan after the death of Nadir Shah. Abdali launched several invasions into India between 1748 and 1767. During his invasions Abdali, sacked Delhi and various places of religious worship. The Golden Temple at Amritsar and the Hindu temples at Mathura were desecrated and raised to the ground. He perpetuated large scale massacre of Hindus in Mathura, virtually choking the Jamuna with Hindu blood and Hindu corpses. Similarly, near Barnala in Punjab he massacred 30,000 Sikhs.

It was during the invasion of Abdali that a large Maratha Army under Sadasiv Rao Bhau came up to deal with the invader. The Marathas gained initial successes having captured Delhi and then Abdali's base on the Jamuna at Kunjpura but in a creditable move Abdali established himself astride Maratha line of communication, South of Panipat cutting them off from their base. It is unfortunate

that Marathas got no help from the Jats, the Sikhs or the Rajputs. Isolated in their camp for nearly a month, it was a starving Maratha army that started the battle against Abdali on 14 Jan 1781. The Afghan centre wavered for a while under the fierce Maratha assault but Abdali restored the situation with his reserves. The Maratha right wing under Malharrao Holkar fled from the battlefield. The Maratha C-in-C Sadasiv Rao Bhao and the Peshwa's son Vishwas Rao met a hero's death. By the afternoon, the issue was decided and 28000 Maratha soldiers, the flower of the chivalry of Maharashtra lay dead on the battlefield. Many more were killed during the pursuit that followed. This was indeed a catastrophic defeat for Marathas and there was hardly a family in Maharashtra which had not lost someone in this battle. Although Marathas received such a grave set-back, they managed to revive their power in North India under Madhoji Sindhia till the British got the better of them. The great victory won by Abdali was basically a sterile victory for him because it did not lead to any extension of his dominion nor to any substantial financial benefit. Sikh guerillas continuously harassed the Afghans in Punjab and not long after this battle, they ultimately drove the Afghans out of India. The rule of the great Maharaja Ranjit Singh was now established in the Punjab and Afghans ceased to be a threat to India. Thus as the medieval era drew to a close, Marathas had eliminated the Mughals and the Sikhs had eliminated the Afghans from the struggle for power in India.

ASSESSMENT

Having surveyed the broad course of our military history during the medieval period in which Indian armies were persistently annihilated by the Turko-Afghan invaders, we may now analyse the causes for their collapse. Sir Jadunath Sarkar has stated that the hardy Turko-Afghan soldiers with their fine Arab steeds were far superior to anything that the Indian military could oppose them with. There may be an element of truth in this but this does not provide a convincing explanation for the debacles. After all, if the indigenous armies during the ancient period could halt and defeat the Greeks, the Sakas, the Huns and the Arabs, why couldn't the indigenous armies do so in the medieval era? We will have to look for an explanation to this phenomena elsewhere.

The disintegration of a society can be more complete as a result of internal decay rather than external aggression. Signs of such decay can clearly be seen in the Hindu society of the medieval period. By the Tenth Century, Buddhism had been banished from the land of its birth and neo-Brahmanism with

rampant ritualism established. It tightened its grip on the mind of people and all classes surrendered their freedom of thought to the priestly classes. The four Varnas got solidified on the basis of birth and the previous flexibility in relation to vocation had disappeared. Fighting the invader was the task of the Kshatriya and the rest of the society had no obligation in this regard. They were only required to remain passive and inert during the periods of invasion. The rulers were encouraged to lavish their wealth over temples and ignore the requirements of defence. The sacred duty of the ruler had become the protection of the Brahman and the Cow rather than the defence of the country. In the name of religion, a strict embargo was laid on foreign travel or contact with foreigners in 'Kal Yug'. When Punjab was lost to the invader, no attempt could be made to regain it because the countryside had been polluted by 'mlechas'. Anandpal would not accept own son Suryapal, who had been forcibly converted to Islam, when the latter wished to become a Hindu again. The Rajputs would not attack Multan because the Arabs threatened to break the idol in the sacred temple if they were attacked. At the second battle of Tarrain the Rajputs could not eat any food as they had not had a bath and performed their morning ritual. All the ingredients for self-annihilation were present in the Hindu society of Eleventh Century. In this context it is no wonder that the Hindu military machine suffered such a total collapse at the hands of Turko-Afghan armies. The wonder, if anything, is as to how Hindu civilisation survived at all and did not disappear like the ancient Egyptian or Babylonian civilisation.

Indian rulers failed to show any sense of geography and they never had a frontier policy. No attempt was made to stop the invader at the geographical frontier of the North-West passes nor any effective coalition formed to deal with the invader. Even the defence potential of the numerous rivers of Punjab was not utilised and Indian rulers were content to fight their battles on the plains of Karnal, Tarrain and Panipat.

At the time of all these invasions the country was politically fragmented and the rulers were not prepared to forge a common front. Often people like Jaychand, Vidyaraj, Daulat Khan Lodi and many others played the role of traitors and invited the invader.

A major factor which spelt the doom of the Indian military was, feudalism. The rulers did not maintain large standing armies as was the practice in the ancient period. Feudal levies owing loyalty to their respective feudal lords would be assembled at the last minute.

They lacked cohesion and motivation. Their mobilisation was a time consuming process and their standard of equipment and training was very poor. The feudal levy system was tailor-made to produce lack of discipline and an inefficient though numerous force. Once the leader was killed or thought to be killed, the army fled the battlefield as happened in the case of Anandpal, Jayachand and Himu.

There was a totally mistaken concept of chivalry among the Indian rulers which forbade attacking the enemy when he was not prepared or pursuing him after he had been defeated. Organising of espionage being ungentlemanly was unthinkable. Bows and arrows were discarded as it was not chivalrous to attack the enemy from a distance. "It is very strange that the Rajputs chose to discard archery which had been valued so highly by Indians in the past. At one time, the art of war was referred to as 'Dhanurvedya, and in our epics both Ramayan and Mahabharat archery occupies a pride of place. The Greek historian Arrian has given a fulsome praise to the standard of Indian archery in the Mauryan era. He has written, "There is nothing which can resist an Indian archer's shot, neither shield nor breast-plate, nor any stronger defence, if such there be". It defies comprehension that defying our well established traditions and the requirements of common sense, Rajputs should have chosen to discard archery in their Army. Our concepts had changed so drastically from the *osto-poltik* advocated in the *Arthashastra*. No wonder a contemporary Muslim historian wrote that the Rajputs know how to die but not how to fight. Field Marshal Montgomery in his book on the History of Warfare has commended the bravery of the Rajputs but has rightly criticised their stupidity in battle.

Elephants have often been blamed for the discomfiture of Indian armies in battle. It is true that when these animals got out of control they caused more harm to their own forces than to the enemy. The fault perhaps lay not in their use but in their misuse. After all Selucos won a great victory at the battle of Ipsus with the help of elephants that he had acquired from Chandragupta and similarly Mahmud Ghazni, successfully used elephants against the Turkish invader, Illak Khan. Hindu armies used to be jam-packed with elephants and infantry so that when the elephants turned round they trampled their own troops. Had they left suitable gaps and catered for adequate protection of the elephants, things could have been different.

It is unfortunate that the Hindu rulers considered battles to be merely a gigantic wrestling duel of two opposing sides in which the

two rushed at each other and the side with superior strength prevailed. No attempt was made to develop any tactics nor evolve any tactical plans for battles. As against this, we find the Muslim armies having proper tactical concepts. Crescent like their horse-archers would approach the opposing army and pour arrows into it. When the enemy started breaking up, the horns of the crescent would close round him and a force of fresh troops comprising heavy cavalry would launch an irresistible charge to complete the rout. Time and time again they practised such tactics against the Hindu armies and the latter stood helpless in battle only displaying desperate courage. Military leadership of Hindu armies was of a very poor quality. These leaders were good only in engaging in suicidal wars against each other when both sides followed the same rules of the game. Pitted against the Turko-Afghan invaders, their military deficiencies stood fully exposed and they totally collapsed. All their personal bravery or the bravery of their soldiers and their large numerical strength were of no avail. They did not know the elementary truth that one does not win a battle by dying for one's country but by making the enemy die for his country.

MODERN PERIOD

THE BRITISH ERA

Towards the end of the medieval period the Marathas had eliminated the Mughals and the Sikhs had eliminated the Afghans from the race for power in India. In the East the authority of the Nawab of Bengal had been duly subverted by the British through both intrigue and military action. Besides Marathas and Sikhs, the other major indigenous power was Mysore. The British now proceeded to deal with their three possible rivals for power, one by one. They well understood the weakness of the then Indian society in terms of its failure to forge a united stand and exploited this to their best advantage. It has been said that sometimes they prepared the ground so well through political intrigues that they could virtually win the battle even before the commencement of military operations. Haider and Tipu Sultan were first tackled in the Anglo-Mysore wars while the Marathas and Sikhs remained onlookers. Despite some success achieved by both Haider and Tipu, the might of British arms ultimately prevailed and the battle of Seringapatnam extinguished the military power of Mysore. Next came the turn of the Marathas who were often disunited amongst themselves and the British of course took full advantage of their disunity. European officers in the service of Maratha rulers helped the British cause by proving disloyal to their salt and betraying their masters at the critical

moment. After having dealt with the Marathas, the British concentrated against the Sikhs. From their point of view, the time was propitious to do so, as the Great Ranjit Singh had died and the Khalsa Durbar was riven with intrigues. There was thus the amazing situation in which the Sikh Prime Minister and the Sikh Commander-in-Chief, Lal Singh and Tej Singh conspired with the British to get the Sikh Army destroyed in battle.

By the middle of the Nineteenth Century, British military power had become supreme in India. All the indigenous contenders for power—the Mysore rulers, the Marathas and the Sikhs had been crushed one by one. These victories had been won by the British, using large numbers of Indian Sepoys led by British officers in their armies. Apart from disunity amongst Indians and the presence of traitors in their fold, the success of British arms was due to a variety of factors. A sense of nationhood appears to have been totally lacking amongst Indians of that age and they fell an easy prey to British intrigues. The industrial revolution had given the British superiority of military equipment in terms of guns and muskets. With better education and broader vision, the quality of leadership in the officer cadre of the British armies was far superior to what the still feudal society in India could provide. Another important factor helped the British in gaining an ascendancy over the indigenous armies of India. They employed well disciplined and well trained infantry who maintained their formation in battle. Their infantry would bring down devastating musketry fire and its bayonet assault was irresistible. Employment of well-trained infantry in battle has been a significant part of European military heritage. The Greek phalanx or the Roman legion answered to this requirement. The British had demonstrated the successful use of well trained infantry in Europe both at the battle of Crecy and at the battle of Waterloo. The ill-trained infantry of the indigenous armies of India was more a rabble than a well organised fighting arm. Moreover, the British had an edge in artillery.

In less than a decade of the Second Anglo-Sikh war, the British had to contend with a serious mutiny. Out of their three armies, the Bengal Native Army, the Madras Native Army and the Bombay Native Army, only the former mutinied; the latter two remained loyal. This mutiny is some times referred to as the First War of Independence or the Great Rebellion. Call it what we may, it was confined primarily to the "Poorvias" of the Bengal Army and to a few landlords, albeit enjoying considerable popular sympathy in certain regions, but getting little popular support. The British managed to defeat the mutiny primarily with the help of better military leadership.

Subedar Mohammad Bakht, the Commander-in-Chief of the rebellious forces at Delhi could not match the leadership of General Sir Henry Barnard in command of the besieging force at Delhi. Thus Delhi fell to the British in 1857 and they soon re-established their authority. It is interesting that only nine years earlier with the help of the "Poorvijas" of the Bengal Army, the British had managed to defeat the Sikhs in Punjab and now through their diplomacy they managed to use the Sikhs to destroy the "Poorvijas".

After the 1857 Mutiny, British military power could not be challenged by any indigenous force in India. The Indian had to accept the supremacy of the White Man and had to grovel in dust till the great Mahatma appeared on the scene and led him to Independence. Dr Karaka has aptly given the title 'Out of Dust' to his biography of Mahatma Gandhi. He raised the Indians out of dust and made them into men to overthrow the mightiest colonial empire known to history. Our independence was of course won, primarily as a result of the non-violent struggle launched by the Mahatma. Nevertheless, the Indian military played a significant but silent role in the struggle for independence. The first spark of nationalism in India was ignited by the Army in 1857 and that Great Rebellion became a source of national inspiration to the later generations. During the Second World War, the INA formed from Indian prisoners of war in the custody of Japan, became a great focus for a national upsurge in 1945. After the Second World War, the British were militarily and economically exhausted. They could neither retain a large British military presence in India nor could they now rely on the loyalty of the Indian Army. The Indian soldier had seen the collapse of the white colonial powers in South East Asia. Under the compulsion of Second World War, the British had recruited a very large number of Indians into the officer cadre of the Army from various Universities. These officers had grown up during the struggle for Independence launched by the Mahatma and had imbibed national sentiments. The fact that the Indian Army could no longer be expected to loyally carry out the imperial dictates of the British Government, was clearly brought home to them during the Naval mutiny at Bombay and the Signal mutiny at Jabalpure. Under the circumstances, Britain had no other option but to quit India.

POST-INDEPENDENCE DECADES

After Independence in 1947, the Indian military has been making a singular contribution towards national integration and national defence. In 1947, India had some 500 semi-independent States which could provide the impetus for the fragmentation of the country.

Sardar Patel's genius removed this threat but it was the Army which constituted the ultimate sanction behind his efforts for the integration of States. The presence of a strong professional Army was an important factor which influenced the Princes to opt for accession to the Indian Union. Where this process could not be achieved peacefully, the Army had to launch military operations to execute the Nation's will as in Junagadh, Hyderabad and Goa. Similarly, the violent break-away movements in Nagaland, Manipur and Mizoram are contained by the Army while efforts are being made to get these misguided elements into the main stream of national life. While performing all these tasks, the Army has remained scrupulously apolitical, at all times. In this respect the Indian Army has been true to its past heritage and has been an unique example in the Third World.

As for national defence, the Army was put to test in four different wars. On the morrow of our Independence in October 1947, the Army was rushed to Kashmir to save the Valley from the barbaric inroads of raiders launched by Pakistan. With its back to the wall, it drove out the enemy from the gates of Srinagar. In operations lasting over a year over three fourths of the population of Jammu and Kashmir was liberated and the Pakistan Army defeated in repeated encounters. Operations had to be called off on the acceptance of a UN sponsored Cease fire by both India and Pakistan.

The next trial came in 1962 when the Army received a severe drubbing on the Himalayan heights. We suffered a grave national humiliation. The nation's faith in the impregnability of the Himalayas, the infallibility of its foreign policy and the invincibility of its Army was shaken. A student of history may find the parallel between 1962 and our military debacles of the medieval era, too pronounced. As in the time of Prithviraj, so in 1962, Indian women came forward with their gold armaments to contribute to the national defence effort. We had once again ignored geography. In medieval times, the threat from the North-Western passes and the building storm across those passes had been lost sight of and now we had ignored the implications of Chinese military presence in Tibet. Just as in the past, we sent hastily assembled, ill-equipped and utterly unprepared feudal levies to fight the invader, in 1962 we rushed unacclimatised and ill-equipped troops to fight the Chinese on high mountain tops. And above all, the crisis exposed the ineptness of our military leadership like the repeated Islamic invasions had done in the medieval period.

Luckily, we soon recovered from the trauma of this debacle. Pakistan was in for quite a surprise in 1965, when she launched military operations against us to take Jammu and Kashmir by force. The honour of Indian arms was vindicated and the aggression fully thwarted. And then came the 1971 war in which while remaining on a strategic defensive in the West, we launched an eminently successful offensive in the East. In a 14 days' lightning war, the Pakistan Army was convincingly defeated and a new sovereign nation of 73 millions became free. Some 90,000 Pakistanis surrendered to the Indian Army at Dacca. That was the Army's finest hour.

CONCLUSION

I have attempted a very broad brusque resume of the role of the military in our history from 326 BC to 1971. We have seen how in the ancient period our military acquitted itself creditably in dealing with world conquering foes like the Greeks, the Sakas, the Huns and the Arabs. We also saw how our military crumbled to pieces like a house of cards when called upon to face the Islamic invasions. Towards the close of the medieval era there was a resurgence of the Indian military first among the Marathas and later among the Sikhs. Despite this resurgence, due to certain inherent weaknesses, we found that the British managed to overwhelm us. And then the military played a silent but significant role in helping us to achieve Independence. After Independence, the Army has been promoting national integration and successfully defending our national sovereignty.

All this is part of the history and heritage of the military in India. History is not merely a bundle of dead facts but it is something much more. A true understanding of history can come only through completely objective and truthful presentation of facts, no matter how unpalatable they may be. These must then be studied analytically to discern the cause and effect syndrome.

We need to ponder deeply over the lessons that come out from our past military history. These have been learnt at the cost of the blood of our countless countrymen and the indescribable miseries suffered by our country. We must learn from our past mistakes, so that never again our independence gets imperilled and our people trampled under the heels of an invader. First and foremost is the imperative need for national unity. We must never again be found to be a disunited and divided people when facing an aggressor. We just cannot afford to have another Ambhi, Jaichand, Daulat Khan, Mir Jafar, Tej Singh or Lal Singh in our midst. Such elements must be ruthlessly dealt with. Secondly, our military must at all times be

given the best possible leadership that our society can throw up. Poor military leadership spelt our doom in the past and we cannot allow this unfortunate legacy to persist. It is imperative that a career in the Defence Services is made as attractive as in the Civil Services. Failure to do so will result in second class leadership in the military with second class security for the Nation. This can cause a catastrophe because in war there is no prize for the runner up. Thirdly, we should never be lulled into complacency on the basis of our geographical size or numerical strength. Time and time again in the past, India was overwhelmed by countries much smaller than her. Fourthly, we must always remain ever vigilant about any developments that take place across our border which have a bearing on our national security. We must defeat the threat to our security and halt the invader at the border "and carry the war into his territory rather than allow him to ingress into our territory to fight a decisive battle at Karnal or Panipat." Lastly, we must ensure that our military is not at a disadvantage in either tactics or equipment as compared to the enemy it is fighting. The asymmetry in mobility on the battlefield, stemming from the enemy having better steeds, that prevailed in the past, must not be allowed to recur. We must have hard-hitting mobile forces which will be able to get the better of the enemy in mobile operations.

In conclusion, I submit that though we are a peace loving nation harbouring no territorial ambitions, it does not imply that we can afford to take liberties with the defence of our country. It is only through constant vigilance and a high degree of defence preparedness that we will be able to successfully defend the national sovereignty of our great country, for ever and for ever.

Formulation of a Strategy for Defence

MAJOR GENERAL SATINDER SINGH

GENERAL

Defence strategy would be a simple thing if all one had to do was to arrange for the destruction of all hostile forces that threatened the state. This would be the most unsophisticated way. Genghis Khan could be said to have employed this method to carry out his lightning conquests in Asia and Europe. But even he, had to restrain himself in the early days till he had fashioned the instrument with which he could effect his ambitions. Before doing this he had to overcome inter-tribal rivalries and unite the Mongols.

Hitler nearly succeeded in annexing the whole of Europe. But he failed in the end because he over-estimated his own capabilities and under-estimated the capacity of his opponents.

The British were so over-awed by the warlike competence of their adversaries after the initial defeats that they had suffered, that they depended entirely on drawing the Americans into the conflict. Till then their only strategy was to survive somehow. This was in spite of the fact that till then they had been the foremost power in the world.

Strategy therefore depends on the weighing up of one's assets and liabilities in relation to the hostile forces with particular reference to the situation prevailing at the time. Obviously the strategy employed must be based on the aim or objective that has been formulated. In it's purest sense it would be the defence of the nation against any threat that might adversely affect it's integrity.

On the other hand a more aggressive nation may see advantage in the disruption of what it perceives as a threat, or in the acquisition of economic and military benefits by conquest.

ASSETS AND LIABILITIES

GEOGRAPHY AND POLITICS

India occupies most of the land area of the South Asian region. The peninsula projects Southwards into the Indian Ocean. Geographically therefore it has great strategic significance. Suitably strong it

could play a dominant role in the North Indian Ocean and the surrounding countries. Northwards and Eastwards it is physically blocked by mountains and poor communications. It is not possible for a serious land threat to emanate from this direction. On the other hand it would be wrong not to consider the danger arising out of the siting of Medium Range Missiles (MRMs) beyond the mountain barriers, from where they could reach out to most of the vulnerable areas in the Gangetic Valley.

The paucity of good ports makes them vulnerable to threats from naval forces which could concentrate their activities on the few good ones that exist. Seaborne trade is an important factor as the country depends so much on the import of High tech industrial goods and fuel. The outflow to balance this import also originates from the same ports.

Democratic India is surrounded by autocratic regimes. This places it in a hostile ambient from the very start. It is a target therefore for most of its neighbours. The size of the country and its population acts as a deterrent. The most hostile of them, Pakistan, sees that the only way it can regain a balance of power is in the breaking up of India into a number of independent states. This had always been Pakistan's spoken or unspoken strategic objective. In the past the secessionist activities of the North Eastern tribes of India gave them the ability to instigate and support them from the now defunct Eastern wing. Till recently the bloody aftermath of Partition had left animosities simmering on both sides of the Western frontier of India. There had thus been no opportunity for Pakistan to exploit in this region. The situation in Indian Punjab has now provided this.

The other active threat compounded by differences over the frontier between the two countries and differing political systems comes from China. There is no real land, air or sea threat from this entity, except from MRMs.

The great importance of the Persian Gulf region from the point of view of oil for West European and Japanese consumers has brought in super power intrusion. The strategic significance of the Middle East as a bridge between Europe, Asia and Africa and the support of Israel in furtherance of the strategic necessities of the Western Alliance, has made the region, which lies on the Western flank of India, one of the possible flash points in a world wide conflagration. The position is worsened from the Indian point of view by the ongoing war between Iran and Iraq, both of whom are important oil suppliers to India. The US intention to strengthen its hold in this region as it gives them

access to the Southern frontier of their rival for world domination, the USSR, and the counter moves by the latter pose a serious threat to the stability of the region. The loss of Iran has made the USA depend mostly on three countries, Israel—Saudi Arabia—Pakistan. In this it must be noted that Pakistan supplies most of the troops and pilots in the states lying South of the Persian Gulf. Thus the loss of Iran has brought the USA next to India by its support to Pakistan. In this it must be noted that the USA has no qualms in allying itself with an autocratic regime as long as it serves her purpose to contain USSR penetration in the region.

Russian counter moves have brought it into Afghanistan, an ambition that it has always had, right from Czarist times. This has been the most vulnerable flank to the South Asian area from time immemorial. The USSR has also countered US influence in the Far East and South East Asia by establishing itself in Vietnam thus in some way dominating the sea routes from Japan to the Middle East. This has enabled them to encircle China if one includes India as part of their strategical orbit.

For the time being the USSR will be constrained to adopt a friendly posture to India. It needs this as long as there is a strong US presence in the Indian Ocean and because of its continuing hostility to the Chinese regime. It must be noted that the Russians are a very cautious race and will not take any risks. They could not be counted upon for any active assistance in the event of open hostilities with either China or Pakistan. The USA too will be reluctant to enter into any ground action because of the Vietnam syndrome, in support of her allies. She will rely instead on the intervention of surrogates. She might however provide assistance from the air point view and in logistics to elements hostile to India. She could in the worst case impede Indian naval and merchant shipping, but it is unlikely that she would even in this case actively engage Indian forces in the Indian Ocean.

China has made the appropriate gestures in support of Pakistan whenever there have been open hostilities between India and that country. But she too has never intervened actively except in 1962 when all the factors were in her favour. In any case Indian problems with China mostly stem from hurt pride. In the present circumstances it should not be impossible to come to terms with her. The only constraint could be the risk of offending the Russians.

The assets therefore are the strategic location of India in relation to the rest of Asia. The US rearmament of Pakistan has made that

country the only active threat. This, and the intrusion of the two super powers into the region has led to a destabilisation of the whole of South Asia, for the first time since the ending of the hostilities with Pakistan in 1971. This destabilisation has been unfavourable to India and could therefore be considered the main liability. While the size of India and its population gives it an appearance of dominance this is not clearly so. This will be examined further in the article.

THE PEOPLE

The size of the population is a major asset. Thus from the point of view of the armed forces there is no dearth of manpower. But now comes the rub. An expanding industrial sector and a burgeoning agricultural one, attracts the largest part of the educated manpower available in the country. It would not be untrue to say that the army gets recruits who are still unlettered. They take longer to train and are not as effective in action as say the Israelis, where most of the men are secondary school graduates. National motivation also suffers due to the emergence of regional and communal pulls. Then management of the economy and of the country is impeded by lack of the necessary skills. In this sense the country lives in the ambient of the 1920s with reference to the standards at that time existing in the advanced countries.

Another major liability is the insufficiency of food for upto 40% of the people. Then, social stratification prevents upward mobility. The majority of the population therefore has little stake in the country. This factor weakens the will to resist outside intrusion, and has been one of the causes of the supine submission to foreign rule in the past.

In spite of these liabilities there is a rising tide of young people, who, when not misled, have the necessary qualities to push the country forward. In fact it would not be incorrect to say that the junior and middle leadership of the nation is now in their very capable hands. By and large they are not affected by the general malaise of corruption and the struggle for power, though they must be somewhat disoriented by this.

China has less social stratification and the people are more organised under the communist regime. They too suffer from the problems of language and race. The former written in ideograms is easily understood by all literate people even though the language itself might be different. This is a unifying factor. By and large they have less malnutrition than that which exists in India. They are therefore able to mobilise much greater manpower. Though they have been

dominated by foreign powers they have never been ruled directly by them. They thus have wider experience of government.

Chinese preoccupations with the USSR and Vietnam, taken together with the Himalayan barrier, reduce the magnitude of the threat from that nation.

Pakistan like India also has its hang-ups stemming from foreign rule, caste-like divisions of society, religious and regional differences. The political structure is based entirely on the wellbeing of an elite which is not being added to by social mobility from classes below it. Education is a failing there as much as it is in India. The standard of living is better for the bulk of the people as there is more food to go round. The people from whom most of the armed forces draw their manpower, that is from North Western Pakistan, are generally tough and obedient. Technical and managerial skills are about par with those of India. It is possible that the junior and middle leadership of the Pakistan armed forces would not accept such risks as the equivalent ranks of this country.

Pakistan lies across an easily traverseable frontier. Till the recent re-introduction of US power into the region the threat from Pakistan had been largely neutralised. This situation has now been reversed. Under the circumstances it will not be possible to attempt to pre-empt any overt action by that country. The balance of forces are such that neither side has the advantage over the other. Neither do they have the quality and endurance to stick it out for any length of time. If past experience is to be taken as an example no conflict between the two has lasted more than 6 weeks, except in the early years in J & K, that is to say in 1947/48. This has been the constant weakness in South Asia and the fortunes of war have depended entirely on the outcome of one battle. The leadership on the losing side has surrendered facily and tamely accepted defeat. This characteristic however may be exploited. The way has been shown by the preparations and actions in 1971 by India. Preparations by themselves mean nothing. It is the leadership that counts. The only time the political conduct of hostilities failed was in 1962. Democracy has its own way of bringing to the fore the fittest. This does not work in a military autocracy. In this sense India has an advantage over Pakistan.

THE ECONOMY

The major assets is the founding of the industrial state. The basis has been truly laid in this respect. Bureaucratic controls fuelled by political intrusion into this sector has curbed growth. But the basic

essentials are there for the support of any defence effort. Pakistan lags in this area but makes up for this by alliances where she can procure the military hardware she needs. Her idea is to seek the same relationship with the USA as the latter has with Israel. While industrial activity in the latter is more advanced than it is in Pakistan, it must be noted that about 50% of her budget both civil and military is in the form of grants from the USA. Though Pakistan has made some progress in this direction she does not possess the political clout that Israel has in the US domestic scene.

The Chinese are partially in advance of India in certain spheres. But this is marginal only. Both countries are on the way to self sufficiency in the industrial field, as far as such a condition can be said to exist in any country.

The biggest liabilities on the economic front are those of food and fuel. There has been considerable progress in the former where at one time India was seen as an international 'basket case'. But there is much to be done to provide enough sustenance to all of the people and to cater for population growth. The fuel sector is the real Achilles heel. We are now just beginning to meet all our needs to the extent of some 80% or so. This is however based on abysmal levels of consumption. It is estimated that some 150 million tons of oil are required if we are to even equal the consumption of Israel. For the moment we are making do with about 30 million tons. We depend on the Middle East and the USSR for our oil. Sea lanes to the former can be easily interdicted by Pakistan. The presence of Pakistanis in the armed forces of the Arab countries, especially Saudi Arabia and Oman gives them the necessary influence in these countries to impede the flow of oil even in neutral ships in the event of war. This leaves only the USSR. It does not appear that we have explored the possibility of obtaining some of our needs from nearby Indonesia or Malaysia. In this sense we are as dependent on external oil resources as the UK was in the two World Wars, though this is of course not strictly true as India has certain domestic sources, unlike the UK till the discovery of off shore oil.

China is more or less self sufficient in the field of oil. Pakistan lies adjacent to the main oil producing nations of the Middle East and has no major obstacle in this respect. And it is reasonably well off in food.

It is interesting to note the fact that both Iran and Iraq have been able to prolong their war for more than three years. Their domestic industries are not capable of supporting a war and hence

they have to export oil to buy their warlike necessities. This situation does not apply in the Indian context.

DEFENCE INDUSTRIES

The ground work in this respect has been laid in India and there should be no reason to import anything except the most sophisticated weapons. Arms dealers are always insistent to sell a whole weapons system. In the Falklands War the British used obsolescent aircraft and ships and then fitted them with the most advanced avionics and missiles. This means that efforts should be made to import only those components that are not made in India and to fit them onto existing tanks, ships and aircraft. While this is being done, strenuous attempts must be directed at the attainment of the skills needed to make the sophisticated auxiliaries in the country.

In this sphere the Chinese have made greater advances. But they are also restricted by the lack of sophistication. Their tilt towards the USA is directed to enable them to obtain the high technology that they require to update their weapons systems.

Since Pakistan can obtain their arms from the USA and for short periods borrow armaments from the Arab countries with whom she has close links she has no major problems in this respect. Her drive at the moment is to be able to repair and maintain equipment received from foreign sources. In this way she hopes to further cement her relationship with Arab countries.

India and possibly Pakistan have the capacity to make rudimentary nuclear bombs of the fission variety. Delivery systems are probably restricted to aircraft. India is just entering the missile age and should be capable of making MRMs in four or five years time. Geographically Indian targets are more dispersed than they are in Pakistan. The use of nuclear weapons could well have wider implications than just the South Asian arena. It would add many complications to the problems of defence. A deterrent capability is however a must, however unfortunate this may seem to be. And in this respect it must be noted that the Chinese have already demonstrated their ability to make bigger bombs and the necessary missilery. Thus while Pakistan automatically gets protection from the USA and the Chinese, India will need to be self sufficient in this respect.

It needs to be stressed that the import of sophisticated armaments or for that matter any armaments is a drain on foreign exchange. It also leads to the situation that foreign workers gain at the expense of

domestic ones. Then in time of war, the availability of our own weaponry gives us the freedom to operate as we wish. Dependence on outside sources restricts this freedom.

Whatever it may be, the present situation of the Indian armaments industry makes it necessary that any war that takes place must be short and intense, especially in those areas where sophisticated weapons are a must. In this context it would be to our advantage to fight in the hills and mountains, the wherewithal for which exists in our armament production sector.

FINANCIAL SITUATION

By and large the financial situation is not unsatisfactory. The biggest asset is the capacity for saving that exists in the Indian economy. This is stated to be in the vicinity of 23% which is larger than any other country, including Japan. The situation would improve if the state sector performed better. For the moment this is a major liability in the sense that their losses come out of the people's pocket. The basic reason for this is ineffective management. Technical skills are also low and there is much 'feather bedding' by the employment of more labour than the industry warrants. Using the right managers of whom there is no shortage this problem could be overcome.

The major foreign exchange expenses are oil, food and sophisticated armaments. In the case of oil there is no possibility of reducing our expenses, unless there are major discoveries. Food is becoming a smaller burden with the development of agricultural resources. In the case of armaments there is no doubt that reduction could be achieved if India directs itself seriously to the production of indigenous weaponry. This may not necessarily be of the most advanced type but could be produced in quantity and at the scales that we need. One has only to look back to the last war in 1973 between Israel and Syria to note that it wasn't sophistication that led to the former's victory but superior leadership.

Pakistan has no real problem at the moment in the financial sense. She receives large remittances from her workers and service personnel in the Gulf. Then she receives large grants from the USA and Saudi Arabia.

China has to import quantities of food grain and high technology. But she makes up for this by the export of oil. Her financial situation is therefore satisfactory.

Except in the case of oil it will be seen that India has enough resources to make for greater prosperity and to reach a satisfactory state of self-sufficiency in the production of armaments.

THE ARMED FORCES

A look at the 'Military Balance' will indicate the size and strength of the Indian armed forces. Though they are clearly inferior in strength to the Chinese there is the fact that the communications from Chinese bases to the Himalayas restrict the quantum of threat that China can pose to India. On the other hand they do tie down Indian troops which could be utilised for any threat from Pakistan. Were it possible to come to terms with the Chinese at least temporarily then this force could be reduced. This then could be used elsewhere or the savings made, utilised to modernise equipment in other sectors.

The biggest liability in the armed forces is in the matter of equipment. There is a plethora of types of arms and aircraft and even ships. This makes training, maintenance and supply of spares a big problem. Fortunately this applies only to heavy armaments and aircraft. But it would certainly affect adversely the fighting of a war, especially in the plains.

The size of the Pakistani forces is such that it does not give India the necessary advantage over them in terms of size to ensure success in an offensive operation. The Pakistanis do not have a favourable balance of force but they have sufficient to deter any wild schemes that the Indian side may have. But they too cannot be certain of any great victory which might affect the balance of power in the subcontinent. Defensively India is in a superior position. Offensively success would depend largely on the attainment of surprise and speed of operation. This means that success will depend on the capability of the higher leadership in the armed forces to create a favourable situation.

CONCLUSIONS

An objective study of the assets and liabilities in comparison with our likely adversaries will no doubt demonstrate, as this article has tried to do, that defensively India has sufficient capacity to ensure the security of its territory. It is however possible to improve this potential. Education and a greater stress on indigenous armaments might not be possible in less than 5 to 6 years but this is a worthwhile objective. A little more stress on the human being will no doubt have favourable repercussions on the whole of the Indian scene.

China's Security and its Military Modernisation

LIEUT COLONEL RAVINDERPAL SINGH

THREAT PERCEPTIONS AND ORGANIZATION OF CHINA'S SECURITY

EVER since the emergence of the Peoples Republic of China (PRC), various levels of threats have been perceived to its security from different directions and alliances. The long-term strategic threat from the Super Powers is more from the Soviet Union and its Vietnamese allies, than from the United States, which has been lately relegated to "Enemy No. 2". Taiwan continues to offer a political alternative to Chinese Communism and friction with the Japanese remains, inspite of a treaty of peace and friendship. With India, there is still an unresolved territorial dispute and the Indian army in particular harbours a resentment over the reverses in the border war of 1962.

In terms of geography, China has both great vulnerabilities and great strength. The vulnerabilities are principally along the 4500 mile border with the Soviet Union in the north. China's geographic strength lies where it is not needed, along the border with less formidable foes in the South—Vietnam and India. The dominant geographical factor, as far as the United States, Taiwan and Japan are concerned, is the sea. In the case of the Soviet Union it is the vast, open and underpopulated frontiers of Sinkiang in the west and the developed Manchurian plain in the north-east. The terrain in Manchuria is marginally promising for a successful defence. The mountains and swamps that run the Manchurian Plain tend to channel and delay the attacker. But the Russians have means to overcome terrain obstacles. Besides, they could also use the Mongolian territory to sever Sinkiang from the Han population centres. The dominating factor as regards India is the extreme mountainous terrain and non-Han ethnic population¹ of Tibet and Sinkiang. In these areas the Peoples Liberation Army (PLA) operates to some extent as

1. The ethnic Chinese Han component of the Sinkiang population has increased from 5 to 40 per cent in the last thirty years. Probably not more than 15 per cent of the soldiers stationed in these regions are minority nationals—far below the percentage share of the region's total population. See, McMillen H. Donald, "The Urumqi Military Region Defence & Security in China West", *Asian Survey*, vol. xxi, no. 8, August, 1982, p. 708.

an occupation army and has to be ready to deal with local disturbances, for these are relatively remote and troubled lands where the local population might try to shake off China's hold, should the opportunity present itself. With the passage of time, the possibilities of successful insurgency in these regions are decreasing.²

The territorial disputes did not come alive till the Sino-Soviet split in 1960. The Chinese resentment was based on the realisation that the cost of Russian nuclear insurance was rather high when they found they were being used as the Soviet cat's paw in Korea. Later, the Taiwan Straits crises of 1958-60 indicated that the Soviet security guarantees did not extend to playing brinkmanship with the United States for the sake of Chinese national objectives. The Soviet Union also backed out of its pledge to provide nuclear and rocket technology.³ The split became a reality when the Soviet Union withdrew its personnel and stopped all material assistance. The clash on the Ussuri River and the subsequent events have led to deployment of fortysix Soviet Divisions on the Sino-Soviet border.⁴ Six or seven divisions are deployed opposite Sinkiang and the rest are deployed against the Manchurian border, the latter being the most potent threat to Peking and the Shenyang military regions.⁵ These are China's core areas, containing some of China's large industries, cities and rails transportation networks.

A conventional Russian invasion into Manchuria would require anything upto 80 to 85 divisions according to some analysts.⁶ Although the PLA would be outclassed in equipment, its reaction to a Soviet thrust would be the occupation of the key defensive line in the mountains guarding the Chinese plain some 70 to 100 miles north of Peking. These natural barriers would be very well fortified by a number of army corps supported by artillery and armour. A concurrent strategic withdrawal will be carried out with other forces defending the towns on the main axes of Soviet communications. Once the Soviets contact the mountain redoubts, counterattacks will be launched against Russian weak spots and guerrilla operations against their rear areas. The possibility of a Soviet nuclear strike would be countered by the Chinese nuclear armoury which includes

2. See, Corr H. Gerald, *The Chinese Red Army* (London, 1974), p. 159.

3. See, Nelsen W. Harvey, *The Chinese Military System*, (Boulder, Colorado, 1977), p. 196.

4. McMillen H. Donald, *op. cit.*, p. 721.

5. Peking is less than 450 miles from the Mongolian border.

6. See, Mirsky Jonathan & Brigadier X, "The Army that Frightens Russia", *Asian Defence Journal* (Kuala Lumpur, March 1981), pp. 29-31.

ballistic missiles, some of which are sufficiently mobile to survive a pre-emptive Soviet strike.⁷ The Chinese reckon that any additional reinforcement of the Manchurian invasion would seriously undermine Soviet position in Eastern Europe.

In the northwest, Sinkiang is connected to China proper through the Gansu corridor, a rugged neck of terrain between the southern border of Mongolia and Turpan, and the Gansu mountains. These arid regions stretching from Dzungaria in Central Asia to the eastern fringes of the Gobi Desert have many characteristics of West Asia. Since antiquity, these regions have been controlled by the military organization which commanded greater mobility and firepower. A manpower-intensive force will be a liability, whereas domination could be achieved by a combination of airpower and armoured forces supported by nuclear artillery.

As far as communications are concerned, a single railway line connects Lanzhou with Sinkiang. The region is vulnerable to interdiction from the Soviet-dominated Mongolia. Since the vast open tracts of Sinkiang permit by-passing of Chinese forces by highly mobile mechanized Soviet forces, the Chinese leadership may well sacrifice most of the northwest while developing guerrilla operations behind the enemy lines of advance. Except for Lop Nor, which is a blast area, there are no production facilities or permanent warhead storage and any other strategic prizes in the region. But ever since 1976, the military capabilities of Lanzhou and Sinkiang regions have been upgraded by improving the fire power, mobility and combat readiness of the units.⁸ It is in this context that the recent Chinese military exercise in Ningxia region has to be seen. A combined exercise of armour, mechanized infantry and airforce performing a coordinated counter-attack supported by a simulated tactical nuclear strike was watched by major political and military figures including Deng Hsio Ping himself.⁹ Against both the fronts, the Chinese do not have any trans-border operations capability.

Against the Vietnamese in the south-east, the PLA has the capability to mount operations in the mountainous jungle terrain characterized by scattered towns and villages and few under-developed

7. The Chinese nuclear capability includes 40 to 50 medium-range ballistic missiles (700—miles range), 50 to 70 intermediate-range (1500—3000 miles) missiles and at least two intercontinental missiles. See, Mirsky Jonathan & Brigadier X, *ibid.*, p. 31.

8. McMillen H. Donald, *op. cit.*, p. 718.

9. See, K. N. Ramachandran, "Military Exercise in China", *Strategic Analysis*, vol. vi, no. 5, (New Delhi, August 1982), p. 282.

main roads.¹⁰ The topography of the region compensates for the lack of modern equipment of the PLA. Notwithstanding the restrictions imposed on movement and communications and the Vietnam war experience of 1979, the PLA can manage the threat to its south eastern territories.

SINO-INDIA SECURITY SCENARIO

In 1954-55, China began to construct a secret road across the Aksai-Chin area connecting Sinkiang with Tibet. This road was very useful in moving troops from Sinkiang during the Tibetan revolt of 1959 and the 1962 border conflict with India. The conflict demonstrated the PLA's ability to mount trans-border operations in the difficult mountainous terrain. The Chinese undertook only small-unit operations, against widely dispersed Indian posts. Notwithstanding the extremely attenuated logistical lines and inhospitable terrain, Chinese forces never lacked any essential equipment and supplies, or the ability to employ effective artillery firepower.¹¹

Ever since 1962 there has been a *'status quo'* on the claims and the territories wrested by China. In 1980 China offered a package deal, whereby it would retain 35000 sq. km. in Aksai Chin, which provides a secure access between Sinkiang and Tibet, while Indian de-facto control of some 93000 sq. km. west and south of the McMahon line in NEFA would be given a *de jure* recognition by China.¹² Apart from the desire to settle all its border disputes, it is more likely that the offer has its origin solely in the realities of military situation in the two sectors. The offer has to examine the implications of Chinese claim to Arunachal and its interest in the Aksai Chin as well as the Indian capacities to retain Arunachal and its interests in Ladakh.

Although the strength of Chinese and Indian military forces and their dispositions is highly classified, but from Western published sources it is suggested that India appears to have a slight edge over China in a conventional confrontation.¹³ To what extent such conclusions are inspired in the Western world to present a justification

10. See, G. Jacobs, "Sino-Vietnamese War 1979" *Asian Defence Journal*, no. 3 (Kuala Lumpur, March 1981), pp. pp. 4-13.
11. See, Pollack D. Jonathan, "China as a Military Power", *Military Power and Policy in Asian States, China, India Japan* (Westview Press, Boulder, Colorado, 1980), p. 64.
12. McMillen H. Donald, *op. cit.*, p. 710.
13. See, Workshop Report of the US Senate Committee on Foreign Relations, (January 1982) and T. S. Murty, "Military Factor in Sino-Indian Talks" *Strategic Analysis*, March 1983, p. 708.

for the modernisation of the PLA is open to question. But the fact of the matter is that the existing force levels in Tibet can be considerably reinforced from the other military regions. According to one Indian general, improvements in communications in Tibet have increased the Chinese military potential in that region. The oil pipeline is already operative and the railway line is nearing completion. These and the development of new roads and airfields give China the capacity to sustain operations on the Indo-Tibet border by 21 divisions for 70 days.¹⁴ The main road communication in Tibet runs parallel to the Indo-Tibetan border with arterial roads extending to main passes and pressure points along the border, these factors enable the Chinese to achieve tactical local superiority at the time and place of their choosing.¹⁵ In addition, the western portions of Tibet and Kashgaria are also open to Chinese intrusions supported from Sinkiang Military Region (MR). The construction of the Karakoram Highway allows China access into Kashmir on a much larger scale than the Aksai Chin Road ever can.

There is no significant Indian presence north of Kargil. Shaksgam valley, which India regards as part of Jammu and Kashmir, has been handed over to China by Pakistan.¹⁶ The extension of the Karakoram Highway over the Khunjerab pass and its extension eastwards upto Pakistan-occupied Skardu, vastly improves the ability of the PLA formations in Kashgaria to develop operations along Skardu-Kargil axis in concert with Pakistanis. The Karakoram Highway has the advantages of moving the Chinese forces to threaten the umbilical cord connecting the Leh garrison, and also supplementing their administrative requirements from Pakistan. Whatever be the PLA force levels in Western Tibet, the threat to the Leh garrison is more from Sinkiang. The Chinese can seriously jeopardise the security of Leh by severing its lines of communications along the Kargil-Leh Road.

In a similar manner is the threat to the Chinese communications between its positions in Western Tibet and Sinkiang. Uptil the establishment of the People's Republic of China, Sinkiang was connected only by a tenuous road link with Lanzhou in Kansu. Almost the first thing which the PRC did was to improve the road

14. Lt. Gen. A. M. Vohra, "National Security Perspective", *USI Journal*, vol. cxi, (New Delhi, July–September 1981), p. 219.

15. See, Ashok Kapur, "Military Situation in South Asia", *Military Digest*, no. 82, Army Headquarters, (New Delhi, July 1969) p. 16.

16. For a description of Karakoram Highway see, T. S. Murty, "Chinese Claim to Arunachal", *Strategic Analysis* (New Delhi, January 1983), p. 576, and "Khunjerab Road Strategic Implications", *Strategic Analysis*, September 1982, pp. 331-36.

communications between Lanzhou and Urumqui, and to construct a rail link. The communications to western Tibet were better and quicker via Sinkiang during the occupation of Tibet in 1952. Whether the Chinese interests in Aksai Chin are solely due to the necessity of maintaining good communications between western Tibet and Sinkiang is open to question, considering that the Chinese are claiming areas 50 to 100 miles west of that road.¹⁷ Perhaps there is something in the speculation about the mineral resources of the region. Since proper geological surveys are yet to be undertaken either by the Chinese or by the Indians, the area in dispute being large, one doubts if either side can forego its claim, without knowing what may be the wealth lying under the ground.

In Arunachal Pradesh there are four main valley routes coming into Assam from the Tibetan Plateau. First is via Tawang, which has two bifurcations, one via Bomdi La to Tezpur and the other along Manas River through Bhutan. The other three routes are along the Subansin Valley, along the Siang Valley and lastly along the Lohit Valley. Except for the Subansiri route, the Chinese roads come right upto the border.¹⁸ This facility enables the Chinese to exert pressures at various points along the border. In addition, India cannot overlook the border with Nepal. The Gangetic plain and its east-west communication system is devoid of any defensible geographical barriers, making it vulnerable to a major Chinese offensive through Nepal. The Chinese have built the 104 km. Kathmandu-Kodari Road which gives them a direct access into the Nepal plains. According to a Chinese defector to Nepal, the Chinese have constructed heavy bridges on this road of bearing capacity of 60 tons.¹⁹ This can take tanks and heavy lorries. The Sino-Indian border question will remain alive for some time to come, which in turn will entail a state of military commitment.

ORGANIZATION OF CHINA'S SECURITY

China is divided into 11 Military Regions which in time of war will become autonomous 'Fronts' and take command of all military forces within the regions' boundaries, including air and naval forces.²⁰

17. T. S. Murty, "Chinese Claim to Arunachal", *op. cit.*, p. 577.

18. See, T. S. Murty, "The Military Factor in Sino-Indian Talks", *op. cit.*, p. 706.

19. N. Mitra, "India and its Neighbours", *IDSA Journal*, vol. xiv, no. 3. (New Delhi, January-March 1982), p. 402.

20. For the layout of the PLA in Military Regions refer Dreyer June Teufel, "The Implications of US-China Military Cooperation", *Strategic Digest* (New Delhi, August-September 1982), p. 474, and Nelsen Harvey, *op. cit.*, p. 120.

The air districts have been reorganized to make them coterminous with the military regions, and to facilitate coordination between air and ground forces. In peacetime they are responsible for implementing political and general directives, military-civilian relations, training recruitment, and perhaps the most important function is to look after the logistical requirements of the troops. The military regions also have control over the regional forces, urban garrisons and paramilitary production construction corps. The system of military regions is clearly tailored for a defensive war. They are well prepared for deploying troops and mobilizing resources to protect their own territories, but they are not organized to mount sizable military expeditions across China's borders without drawing on assistance from the strategic reserve from Wuhan MR and other dormant theatres. The dissolution of the Tibetan MR in 1968-69 is indicative of defensive thinking.²¹ The Tibetan region is too remote and troops are too few to justify anything more than a military district status. It has been grouped with Szechuan to form Chengtu MR. Sinkiang MR consists of northern, eastern and the southern Military District.²²

PEOPLE'S LIBERATION ARMY

The People's Liberation Army (PLA) is the collective name of China's ground, naval and air forces, and has a total strength of 4 million men. The ground forces total some 3.5 million, while air and naval forces are more than 3,00,000 and 2,00,000 respectively.²³

The Main Forces (MF) of the PLA comprise primarily of infantry, organized in 37 to 38 corps of three different types,²⁴ according to the amount of vehicles, armour and artillery in each. Type A units are relatively modernised. Type B units rely heavily on pack animals and manpower and have less artillery and armour. Type C units are the light infantry with about two-thirds the manpower of the other two types but without armour or medium artillery. Such units are best suited to jungle and mountain warfare conditions. Tibet and Sinkiang would be having Type C units which could also combine with light infantry divisions of Regional Forces.

21. Ibid., p. 123.

22. McMillen H. Donald, *op. cit.*, pp. 717-18. Three infantry divisions are located in this District, at Kashgar, at Hotan, on Aksai Chin Road between Gartok and Rudok, and on Gilgit-Kashgar Road.

23. See, US Defence Intelligence Agency (DIA) Handbook, *The Chinese Armed Forces Today* (London, 1979), p. 1.

24. See, Nelsen Harvey, *op. cit.*, p. 115. According to the *Military Balance 1982-83*, China's Main Force has 42 Army Corps. The US Defence Intelligence Handbook States that there are 130 to 140 Main Force Divisions (118-125 Infantry, 9-12 armour, 3 airborne and 35 artillery divisions).

The Regional Forces, the second major component of the infantry, are equipped with lighter weapons and have fewer troops than the equivalent echelons of the Corps. The Regional or Local Force has 85 infantry divisions and 130 independent regiments including the border guard to carry out provincial and local defence during war.²⁵ Their peacetime functions include public security, militia organization and civic action. These roles could perhaps reduce their state of preparedness and make them vulnerable to major combined arms surprise attack, notwithstanding the existence of border defence divisions. But in the mountainous southern region, because of slower pace of operations, they would be able to achieve a wartime footing within the required period. Although the Regional Forces carry out the same individual and unit training as the Main Forces, they have lower priority for equipment modernisation and lesser combined arms training experience. These limitations are compensated by their local roots contributing to high morale, a will to fight, and advantages of local knowledge.

PARA MILITARY FORCES

The third element of the Chinese security system is the para military force consisting of Militia and Production and Construction Corps (PCC). Although these forces are capable of providing significant guerrilla and logistic support to the PLA in the defence of Chinese mainland, neither of these groups can make a substantial contribution to the offensive capability of the PLA, except perhaps the road-building capacity of the Production and Construction Corps.

THE MILITIA

It is a part-time volunteer service with its members working at its regular production and service jobs but trained and directed militarily by the PLA. Besides guerrilla warfare, the militia would be employed to defend urban and communication centres, gather intelligence, help maintain production levels, and provide logistic support and manpower reserves for regular forces. The Militia is organized in both urban and rural areas and is divided into three categories. The Common Militia, which comprises at least 75 per cent of the total, receives virtually no military training and provides labour and manpower reserve during wartime. Basic Militia receives some individual and military training. Within this category is the Armed Militia which is well-trained and politically screened.²⁶ They

25. Dreyer June Teufel, *op. cit.*, p. 474.

26. For a description of the Militia, see Nelsen Harvey *op. cit.*, pp. 177-78; the US Defence Intelligence Agency Handbook, *op. cit.*, pp. 2-13, 15, and Col. W. Kennedy, "Defence of China's Homeland". *The Chinese War Machine* (London, 1979), pp. 86-87.

carry arms for public security and coastal and border area defence in platoon-sized patrols. In urban centres, they are also equipped with anti-tank and anti-aircraft artillery.²⁷

Until the 1970's, militia weapons were primarily rifles, hand grenades and side arms. The Militia has lately begun acquiring infantry and anti-aircraft machine guns, landmines, mortars, anti-tank weapons. The military capabilities and readiness of the Armed Militia has noticeably improved in the last ten years. Besides its expanded arsenal, the training has been systematized and PLA veterans serve as full-time militia cadres. Despite these efforts, the fighting ability of the Militia remains low. Live fire training is rare, and military instruction is at small-scale and scattered. Yet, despite these shortcomings, should the invading army penetrate deeply into China, the regional forces supported by the Militia would be able to create critical problems behind the invader's lines of advance.

PRODUCTION AND CONSTRUCTION CORPS (PCC)

It is also described as PLA Capital Construction and Engineering Corps. Unlike the Militia, the PCC is full-time employed for economic development of remote areas on projects like afforestation, road-building, mining, land reclamation, water conservancy and running of some industrial plants and state farms. It also has a paramilitary role of border defence and surveillance. Although probably less than 15 per cent of its strength is armed with light machine guns, rifles and mortars, it would require substantial training before individuals or units could be reasonably considered combat-effective. Nevertheless, the fact of its full-time employment, offers a better mobilization potential during emergencies.

With its strength varying between 1.5 and 2 million,²⁸ the PCC has played a valuable role in frontier development. It is not only achieving the social, political, and economic integration of border regions with China, but has closely linked their economies with the mainland, thereby reducing the possibility of minority separatism.

27. Strength of Militia varies according to different estimates.

	<i>US DIA Handbook</i>	<i>Nelsen</i>	<i>Kennedy</i>
Common Militia	60 Million	23 to 220	100 to 200
Basic Militia	15	15 to 20	20 to 30
Armed Militia	5	7 to 10	7 to 12
TOTAL	90	44 to 250	More than 200

28. Nelsen Harvey, *op. cit.*, p. 191. According to the US Defence Intelligence Agency, the strength of the PCC is over 3 million, *op. cit.*, pp. 2-15.

MILITARY CAPABILITIES OF PEOPLE'S REPUBLIC OF CHINA

The Soviet Union is the only country capable of launching a large-scale invasion of China as the United States has moved closer to a total alliance with it. In the present environment, the likelihood of Soviet invasion seems remote. The circumstances which might provoke such an attack, according to Western observers, could be, first, accession to power of a new Soviet leadership that is more militant, in whose perception the Sino-American alliance might loom sufficiently threatening to Soviet Union; secondly, escalation of a Chinese conflict with Soviet-supported threat from Vietnam.²⁹

The Chinese visualise (according to Western observers)³⁰ that a Soviet offensive will be a surprise attack with heavy use of armour, air support, and nuclear, chemical and biological strikes. To what extent this scenario is promoted by contractual writings to substantiate the US State Departments opinion, is open to conjecture. But one thing is certain, that the scenario is a replica of the NATO's perceptions of Soviet offensive of Central Europe. When one reads of inadequacies of obsolescence or ineffectiveness of the PLA, it is in relation to the modernity of the Soviet Red Army. Military writers in the West, particularly in the United States, regard modernization of the PLA as a useful method of detracting Soviet potential in Europe. Some even consider China as a tacit ally, which should be given considerable assistance in its military modernization. It is argued that substantial modernization of the PLA would not endanger US security (this view is opposed by the Japan-Taiwan supporters), and therefore, the West should adopt liberal policies on the transfer of military technology. In any case, lack of modernization in the PLA does not limit its ability to project power against Vietnam or India.

The bulk of China's main forces are infantry units lacking in mobility and firepower. Although their logistic systems have also been variously described as inadequate, but the defensive nature of Chinese strategy employed by a manpower intensive force wherein, hardihood, familiarity with marginal living conditions and the soldiers' ability to improvise, simplifies the logistic problems. Besides, the PLA has the ability to mobilize civil resources, and, therefore, its deficiencies in transportation system are compensated to an extent. These characteristics of marginal logistic reliance have made the PLA infantry division hard-hitting and able to move in more remote parts of China,

29. See, Dreyer T. June, *op. cit.*, p. 468 and McMillen H. Donald, *op. cit.*, p. 721.

30. See, Dreyer T. June, *ibid.*, p. 469; Pollack D. Jonathan, *op. cit.*, p. 70, and Col. Kennedy V. William, *op. cit.*, p. 106.

as was demonstrated in the Sino-Indian war of 1962 and the operations against Vietnam in 1979. Logistically the achievements of the PLA in the two-week war were quite good, considering the requirements of moving more than 300,000 troops. A PLA army of three divisions has about 44,000 troops (44 trains at 1,000 troops per train) and approximately 22,500 to 25,000 tons of equipment (75 trains at 50 freight cars per train). Besides, it has 2400 vehicles and animals requiring 1100 freight cars (22 trains). The daily average resupply requirement of a PLA division is 150-200 tons (or 750 to 800 for an army). This goes upto 500 tons in heavy combat.³¹

Notwithstanding the PLA's reliance on the high morale and inexhaustable reserves of infantrymen, its deficiencies in firepower in terms of tactical aircraft and anti-tank weaponry and the like, will leave the Manchurian plain vulnerable to a Soviet invasion. Therefore, about two-thirds of the PLA's front line infantry divisions, the bulk of its armoured strength, are found in this region. With reduction of tension opposite Taiwan, the Chinese have redeployed their tactical aircraft and upgraded their anti-aircraft potential in the north. There is a growing awareness in the PLA about the need to modernize, as indicated by an article entitled "Integration of Millet plus Rifles with Modernization". It makes the following pertinent observation: "Any future war against aggression will be a peoples war under modern conditions. The suddenness of outbreak of modern war, the complexity of coordinating ground, naval and air operations, the extreme flexibility of combat units and the highly centralised, unified, planned and flexible command structure, all these factors make it appropriate for our army to have modern equipment. For example, air armed forces must have an automatic computerized count down communications and command systems, and rapid motorised modern transportation facilities. They must also be armed with conventional, and strategic weapons so that they can take quick and retaliatory action against the invading enemy".³²

The PLA's infantry formations are supported by seven service arms,³³ Artillery, Armoured, Signal, Engineer, Anti-Chemical Warfare,

31. See, US Defence Intelligence Agency Handbook, *op. cit.*, pp. 5-6 and G. Jacobs, *op. cit.*, p. 6 for the logistic and rolling stock requirements of a PLA field army. According to Harlan Jencks, besides limitations in firepower and command, control and communications, the logistical difficulties would probably have prevented the PLA from advancing further into Vietnam. See, H. Jencks, "China's Punitive War", *Asian Survey*, August 1979, p. 810.

32. Pollack D. Jonathan, *op. cit.*, p. 85.

33. Naval and Air Force constitute separate branches of the PLA and are not separate services like in India or Pakistan.

Railway Forces, and Second Artillery, which is perhaps in charge of China's ballistic missile forces. The missiles have been mostly aimed against the USSR, although few are deployed to strike Taiwan, South Korea, Japan and South-East Asian targets.³⁴ According to McMillen, there is a possibility that IRBMs and MRBMs are deployed in the caves and tunnels in the Sinkiang mountains, as well as in the Aksai Chin area. They would probably be targeted on key military and communication centres and cities in Soviet Central Asia, Western Siberia and possibly in India.³⁵

The artillery is the PLA's largest and most effective service arm equipped with indigenously produced guns of the Russian type. In the last decade, China has produced large quantities of conventional artillery pieces, equalling the Soviet Red Army in number. But due to the large number of infantry units, there is a shortage of artillery in direct support of units. The emphasis has been on towed guns rather than self-propelled artillery, for the purposes of economy, reliability, and ease of transportation to underdeveloped areas and maintainability. However, due to a shortage of towing vehicles, the PLA artillery is likely to be handicapped in tactical mobility. Besides their fire control systems are unsophisticated, and to overcome this weakness, the Chinese are trying to develop a laser range finder and computerised fire control system.

The main battle tank of the PLA is T-59, a Chinese version of Russian T-54, which would be outgunned and outarmoured by the Soviet T-64 and T-72 tanks. But for the rough terrain in Southern China, the PLA has an indigenously-produced light tank T-62. Considering that employment of tanks is advocated in the mountains,³⁶ especially in the areas where the enemy will not expect them, it is quite likely that the PLA employs the T-62 tank in Aksai Chin and in the Tibetan plateau. In spite of 10,500 tanks with the PLA,³⁷ it is still outnumbered by the Soviet armoured forces. The Chinese are expanding rapidly in this field to present a meaningful deterrent, since most of the Soviet armour is deployed in Europe.³⁸

Signal Corps units are integrated with other troop units in order to plan and operate all forms of communications equipment. Although

34. Nelsen W. Harvey, *op. cit.*, p. 64.

35. Donald H. McMillen, *op. cit.*, p. 719.

36. US Defence Intelligence Agency Handbook, *op. cit.*, pp. 4-55.

37. Military Balance 1982-83, *op. cit.*, p. 80.

38. China has at least three tank factories at Loyang, Harbin and Ta-tang capable of producing 600 to 800 tanks annually. See, Harvey W. Nelsen, *op. cit.*, pp. 66 and 125.

the equipment is heavy and old, and there is too much of reliance on vulnerable land lines, military communications in China are efficient. They may not be fast and flexible by Western standards, but the code systems are very sophisticated and virtually impossible to break.

The engineering forces in the PLA are combat engineers and engineering support units. The former are part of infantry formations and specialize in combat engineering functions like laying of minefield, handling demolitions, and providing camouflage etc. The support units specializations include bridging, general construction, water conservancy and supply and other assistance to civil economy. They are supplemented by the para-military Production and Construction Corps, which has large manpower but is deficient in equipment. The equipment in the engineering forces is of Russian origin of the 1950s design. The efficiency of the Chinese engineer forces in North Vietnam was confirmed by the US Air Force, where the former was employed in the tasks of bomb damage repairs and keeping open the lines of communications. The ability of these forces was earlier demonstrated in their track and road-building performance during the Sino-Indian conflict of 1962.

The anti-chemical warfare forces are responsible for protecting the PLA against nuclear, biological and chemical NBC attack. The Chinese at the moment may not have an offensive capability in NBC warfare, but the offensive roles of anti-chemical warfare forces include flame-throwing and smoke-generated concealment.

Railways and railway troops are important to the PLA's strategic mobility and logistics. This is so because of a general shortage of transport vehicles and poor conditions of roads. In China, railways provide a reliable transportation system, moving vast tonnages over long distances, inspite of shortages in rail tracks and rolling stock. The most notable achievement of railway forces has been completion of Kunming-Kweiyang rail line in 1966 through extraordinarily mountainous terrain.³⁹ The other major human efforts of the railway forces have been extension of railway over the Tien Shan mountains in Sinkiang,⁴⁰ and the rail link to Lhasa which is nearing completion.⁴¹ The latter will greatly enhance the Chinese military potential in Tibet.

39. Harvey W. Neisen, *op. cit.*, p. 69.

40. The only rail line to Sinkiang, from Lanzhou to Urumqi, has been extended to Korla on the northern fringe of Takla Makan in 1980. It is to be extended to the western part of Tarim Basin which is more populated. See, Donald H McMillen, *op. cit.* p. 707.

41. Lt. Gen. A. M. Vohra, "National Security Perspective", *USI Journal*, vol. cxi, no. 462, July-September 1981, p. 219.

The prodigious ability of the PLA was again demonstrated in the Vietnam war in the 1960's, where despite unlimited American air superiority, the flow of supplies never stopped for long over the two rail lines leading into Vietnam from China. The Chinese engineering and railway forces carried out repairs with astonishing rapidity, replacing destroyed steel spans with pontoon bridges, ferrying railway car or their contents where pontoon bridges could not be used. This performance indicates that the rail-dependent logistic system of the PLA is not as vulnerable as it is believed. But with the growing mechanisation in the PLA, it will take more trains to move the erstwhile lightly equipped divisions. The railway forces will have an even more difficult job to perform in the years ahead.

The main areas of weakness in the PLA are in the air defence and anti-tank weaponry. The PLA still bases its anti-armour defences on the pattern of World War-II, relying on conventional artillery minefields and shoulder-fired anti-tank rockets. Lately the Chinese have been looking around for sophisticated anti-tank missiles.⁴² Air defence of the regular PLA formations is inadequate. Most radar-guided conventional anti-aircraft systems are controlled by the PLA Air Force (PLAAF) for the defence of strategic targets. Although the PLA formations have a large number of light anti-aircraft cannons and guns for protection against low-level attacking aircraft, these cannot do much against medium level tactical bombing. Chinese weakness in the transportable missiles is evident as they have been trying to contract for Roland or Crotale surface-to-air missiles against low and medium level targets.

The PLA firepower has improved greatly over the past decade, but its mobility, particularly in the tactical area, has lagged behind. It has accorded a lower priority to its tactical mobility either through heliborne capabilities or mechanizing the infantry forces. Although the production levels of the armoured personnel carriers have been increased, the infantry still remains strategically rail mobile and tactically foot mobile. The limitations of the foot mobility in the mountains will be manifested if its adversaries in the south acquire a reckonable helicopter-lift capability.

PLA AIR FORCE (PLAAF)

The Peoples Liberation Army Air Force is the third largest in the world with about 5300 aircraft.⁴³ During mobilization a few

42. In 1978, China contracted to buy the HOT optically-guided anti-tank missile from France but it is believed that the deal has not been implemented.

43. *Military Balance 1982-83*, p. 81.

hundred civil transport aircraft will augment the fleet. In addition to the flying units, there are ground based air-defence and early warning units organized into 22 radar regiments. China's three air force divisions are also under the PLAAF control located at Wuhan MR. The PLAAF is divided into ten air districts which are coterminous with eleven MR, except the Sinkiang MR. That area is part of the Lanzhou Air District. The air districts are responsible for air defence while the MR control the tactical air operations.

Although the PLAAF has a large number of aircraft, most of them are outmoded models. The Chinese are not capable of designing a modern supersonic aircraft on their own: their copies of MIG-21 has also had problems and production has been suspended. The only notable success has been in the development of an enlarged version of MIG-19, designated as F-9. The main areas of weakness are relatively poor avionics and shortage of all weather fighters, which limits the PLAAs operational ability at night and bad weather.

The PLAAF is capable of delivering nuclear weapons but the chances of relatively outdated IL-28 and TU-16 bombers⁴⁴ getting through Soviet air defences are remote. In any conflict with the Soviet Union, the Chinese will lose the control of the air and their poor mobility will be further limited. Even against relatively modern Indian Air Force, the PLAAF aircraft operating from Tibet will be having reduced bomb loads and ranges due to the elevation of airfields.⁴⁵ Therefore, the emphasis has shifted to developing a ballistic missile capability. The Chinese have not yet been able to develop a tactical nuclear missile capability. At the recent military exercise at Ningxia, the simulated device was dropped from an aircraft.⁴⁶

Many of the long-standing weaknesses of the PLA have been overcome. In spite of its relatively inferior equipment, mobility and firepower to the Soviet Red Army, the massive size of the PLA's infantry forces, combined with fine individual and small unit training and high morale, do much to offset its limitations. The PLA's power

44. Although the TU-16 bomber is of older design, it can nevertheless deliver a 3 megaton nuclear weapon at 1600 nautical miles range. That will put northern and eastern India in its striking distance if operating from airfields in Yunnan. See, Roy Werner, "Implications of US-China Military Co-operation", *op. cit.*, p. 494.

45. See, Brigadier Rathy Sawhny, "The Defence of India's Northern Borders", *Chanakya Defence Annual* (Allahabad, 1969), p. 183.

46. K. N. Ramachandran, *op. cit.*, p. 283.

projection in under-developed areas, where fighting is at lower technological and equipment levels, cannot be matched easily. On balance, the strength of ground forces far outweigh their weaknesses, and their sheer size is the most important deterrent to a would be attacker.

STRATEGIC AND TACTICAL DOCTRINE

The Chinese Strategic doctrine, as propounded by Mao Zedong, is the product of the PLA's 50 years of history. The classic components of the concept of people's war include mobilization of the entire population to resist enemy incursion. Precedence was given to people over weapons. A mobile and guerrilla warfare was planned without having fixed lines of battle or sharp demarcation between the front and the rear areas. A protracted active defence was catered for by decentralisation. This involved a three-in-one fighting force, combining field armies, regional armies and militia; this made use of the advantages of large manpower and reduced limitations of relatively low levels of military technology. The concept of people's war is defensive in nature. Its aim is to draw the invading army into pre-selected battlefields. Meanwhile some of the regional forces defend their own areas and localities, the Armed Militia gets mobilised to conduct guerrilla operations behind the enemy lines, while the Main Forces are intended to engage the enemy in conventional battles and prepare to launch a massive counter-offensive to either annihilate or drive the enemy from the Chinese territory. The main forces would be kept supplied, and intelligence and personnel support provided by other regional forces and militia.

As far as the frontier regions of Sinkiang and Tibet are concerned, neither terrain nor population allow for a full application of the concept of people's war, by which the enemy would be drawn into the region, worn down by guerrilla warfare and then driven out by a conventional counter-attack. People's war depends upon secure rear areas and there is no such thing in the vast desert stretches and steppes of Sinkiang or the mountainous plateau of Tibet. Moreover, much will depend upon the reactions of local, non-Han population. Particularly in Sinkiang, the type of attacks launched by the Soviet Union will be a major factor. Should the Soviets attack with all the conventional means at their disposal, the battle may be over quickly, particularly if the Soviets are helped by a significant number of rebel minorities.

Although the defensive nature of Maoist doctrine serves to support Peking's claim of non-interference in the affairs of other nations, the Chinese offensives against Korea in 1950-51, against India

in 1962 and against Vietnam in 1979, prove their ability to mount operations beyond the Chinese soil in underdeveloped terrain. These military operations were basically manpower-intensive, relying on foot mobility, high morale, surprise and deception, in order to compensate for their weakness in firepower and strained logistic lines. Should another major conflict develop, the Chinese leadership will show no hesitation in committing a large number of troops. Literally millions of Chinese soldiers continue to prepare for such conflicts on various fronts.⁴⁷ Although this type of doctrine appears to be outmoded according to western military thinking, infantry intensive warfare is not at a major disadvantage in underdeveloped mountainous terrain.

During the last decade, the traditional concept of "embroiling the invader in the quagmire of peoples resistance" has undergone a change. As asserted by Su Yü, author of few detailed statements on Chinese military policy in recent years,⁴⁸ "There must be continuous development of our tactics under new conditions and flexible application of various methods of fighting under objective conditions. Since war and its various stages differ.. as arms and equipment, our method should change and develop accordingly. We must be flexible in deploying our troops and in using and changing our tactics. We should constantly study and acquire up-to-date tactics resulting from development of techniques and equipment."

The present concept which is emerging is that the future wars will be under modern conditions. The enemy instead of challenging the PLA's greatest strength may well challenge the technologically deficient Air Force and maintain the operations at higher technological levels. A reduced Chinese Air Force will be a great limitation to the large-scale movement of troops. In the past, the PLA tactical doctrine emphasized the mobility achieved through toughness and endurance of the individual soldier. The doctrine characterised small unit operations involving, first, extensive reconnaissance to locate the enemy flanks and gaps between enemy units; secondly, employing flanking and multiple attacks in preference to frontal attacks and an ability to withdraw in the face of superior force in order to reassemble and fight again at another and more favourable point. In the mountains, the PLA's ability for good camouflage, foot mobility and small-unit discipline exploits the limitations of a difficult terrain, where a

47. In Korea there were thirty Chinese divisions numbering 300,000 troops in 1950; in 1951 the number went up to fiftyseven divisions, 570 000 troops. Against India in 1962 there were only three divisions committed numbering 30,000 troops. In the Vietnam war in 1979, more than 200,000 troops were committed. See, Jonathan D. Pollack, *op. cit.*, p. 60.

48. *Ibid.*, p. 58.

continuous and an intact front is difficult to offer. The Chinese tactic of careful preparation and superiority of numbers and fire power at the point of attack was evidenced in the 1962 Sino-Indian conflict. The widely separated and static Indian defences enabled the Chinese to follow their tactics to the letter.

The point that emerges is that the PLA tactics were successful against enemy with equally low levels of military technology and training, but if in the next war the conflict is raised to higher levels of technology, especially by an enemy with superior mechanical mobility, then the PLA's areas of strength will be reduced. Large scale infantry-intensive attacks will provide very expensive results against modern firepower. Besides, modern surveillance devices and helicopters will reduce the advantages gained by superior camouflage and concealment achieved by large units along the few roads and tracks in the mountains.

MODERNIZATION OF MILITARY INDUSTRY: PROBLEMS AND PROJECTIONS

China's military equipment, the bulk of which is of Soviet origin, is intended to meet its operational concepts, levels of technical skill and the quantity of requirement. The basic concepts of the PLA's equipment design are simplicity in terms of operation and maintenance. Equipment development is being achieved by copying models of highly sophisticated technical equipment and weapon systems by processes like reverse engineering. Re-equipment policies require operational life of system to be as long as possible due to large amount of effort and time required to re-equip such large armed forces; and, besides, large quantities of equipment required demands simplification of design and short inventories of equipment to serve technical and financial limitations. Reliance, therefore, is on easily manufactured low technology weaponry.

Major requirements for military modernization are in the areas of weaponry to match the equipment and technology-intensive Soviet Red Army. The PLA lacks a sufficient number of modern anti-tank and anti-aircraft systems, a main battle tank, and armoured personnel carriers of present generation. The air force lacks in modern ground attack and interceptor aircraft, besides transports and helicopters. The avionics and armaments are inferior to those possessed by almost all of China's adversaries. The second problem area is the low level of technical education and military professional training. Particularly lacking are new ideas, communication of new information and large-scale training at joint inter-service and inter-regional levels. The result of these training inadequacies reflects in the readiness levels of

combined arms formations and equipment-intensive units. The PLA's limitations under modern combat conditions are largely due to adherence to the strategic concept of People's War, which needs revision under the changed technological environment.⁴⁹ As new weapons, tactics and combined army operations concept gets introduced in the PLA, the changes may also modify military region command structure. In spite of the improvements in China's transportation capacities that have been achieved, strategic mobility will be hampered in large-scale high intensity war due to shortage of vehicles, overburdened rail system and lack of mechanized loading facilities. These limitations will raise problems in China's sustainability in the event of a major Soviet attack.

China has been able to develop a broad military industrial base with Soviet assistance in the 1950's. Besides receiving weapons and equipment for 60 odd PLA infantry divisions, a large number of Russian specialists assisted the Chinese in setting up production of new types of equipment.⁵⁰ The scope of such arms transfer may well be unprecedented in the history of alliances. With abrupt cessation and withdrawal of Soviet assistance in 1960, the Chinese specialists had to quickly undertake management of all arms and plants. In spite of difficulties and setbacks, the Chinese managed to resume production and self-sufficiency in most of the areas of defence manufacture, which included 'reverse engineering' of key weapons systems from proto-types and models. But then there was no development beyond the existing models and systems. The Chinese armament production is still based on Soviet designs some of which were transferred twenty years ago.⁵¹ The Chinese military planners have realised that they do not have the ability to engage in indigenous design and development of modern weapon system. And if they have to upgrade their defence capability they would have to look abroad for potential sources of technology.⁵²

49. One of the major lessons learned by the PLA in the Vietnam War of 1979 is that it needs more training and experience in modern techniques of combat. See, G. Jacobs, *op. cit.*, p. 9.
50. Almost all the modern weaponry in China's arsenal in the early 1960s was Soviet-made or copied from their samples and blueprints. Besides giving them tanks, artillery rockets, aircraft, naval and infantry weapons, virtually the entire Russian industry was at the Chinese disposal. See, Nikita Khrushchev, *Khrushchev Remembers—The Final Testament*, translation by Strobe Talbott (Little Brown, Boston, 1974), p. 269.
51. For Soviet arms technology transfer, See, Jonathan D. Pollock, *op. cit.*, pp. 78-82.
52. Notwithstanding the total rupture of Sino-Soviet defence relations, there is a likelihood of newer Soviet weaponry ultimately finding its way into Chinese inventories. Egypt agreed to provide China in 1976 with a variety of Soviet armaments in exchange for spare parts and maintenance help for Egyptian MIG-17s and MIG-21s. The deal involved unspecified number of MIG-23 aircraft, surface-to-air missiles and T-62 Tanks transferred to China. See, *Ibid.*, p. 82.

Given the enormity of the PLA's size and requirements, and vulnerabilities of outright arms purchases and transfers, the Chinese want to broaden their sources of supply and acquire the ability to manufacture complete weapons systems or components. By building indigenous production facilities and training Chinese scientists and engineers, the military planners hope to maintain their autonomy from external control. But for a full-scale military industry to develop, they have to acquire and gain experience in a broad range of technological, engineering and manufacture skills. A scientific and management infrastructure for research, development and production has to be assembled. Besides, the necessary technical expertise will be required to maintain, repair and refurbish modern weaponry.

Considering the fact that during the Cultural Revolution, practically a whole generation of Chinese went without technical education, very few trained engineers and technicians emerged during this period.⁵³ It is doubtful if the Chinese would be able to achieve military modernization quickly. Until China has sufficient engineers and technicians trained and conversant in modern technology and methods, high technology projects will have problems getting off the ground. Although a pool of 40 to 50 thousand Soviet-trained engineers exist in China, even this number is too small to meet the requirements, nor it is as skilled as China's Western-educated engineers.⁵⁴ As the current emphasis in China on science and technology bears fruit, a growing number of engineers and technicians will start entering Chinese defence industry alongwith several thousand technical students who are currently taking advanced training abroad. China would in the near future be able to mobilize enough technical talent only for selected high priority defence projects.

There are other institutional restraints. The PLA itself is not well organized, trained or equipped to receive new weapons, and to maintain and repair advanced systems. There is, in addition, human resistance to change. Conservative and traditional elements would not like to forsake old systems, techniques and processes. There is reluctance to adopt new weaponry and unwillingness to learn from developments in science and technology. To break the mental barrier there is increasing emphasis on the technical training of cadres and

53. Thomas Fingar, "Chinas Quest for Technology" in John H. Barton, and Ryukichi Imai, et al, *Arms Control II* (Cambridge: Massachusetts, 1981), p. 254.

54. Sydney H. James, "The Implications of United States-China Military Cooperation", *op. cit.*, p. 480.

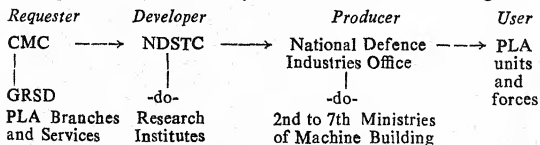
ordinary workers, particularly those who are using imported equipment and technologically are not as proficient. Efforts are being made to develop familiarity with modern technology, which range from improving primary and secondary education to sending mid-career personnel abroad for study, along with highly selective programmes to train first rate technicians. The shortages of skilled management personnel and modern management practices are being redressed by according a high priority to the training of managers. Policies are being introduced to mitigate organizational obstacles to technology transfer, like bureaucratic rigidity, inadequate technical specialization, excessive centralization and poor coordination. Decision-making authority is being transferred from political to managerial personnel.

Problems of political control of the military is not peculiar to China, but what is characteristic is the PLA's political involvement, especially in power struggles. The pattern which has emerged in post-Mao China indicates that the army leadership has no intention of withdrawing from politics or policy-making, although the trend is toward further disengagement from politics. The advantages derived by the military leaders in the ruling elite tend to involve them in political conflicts for the retention of their privileges. This leads to overaged military leadership whose receptivity to new ideas and adaptability is naturally restricted. The entanglement of the PLA in civil and political struggles has diverted its attention from military modernization and professional development. Lin Piao, in particular, involved the PLA deeply in the political struggle for his own purposes⁵⁵. Even more serious a constraint on military modernization and professionalism was the climate of acute anti-professionalism created by the radicals during the Cultural Revolution. In this charged and unsettled situation, the military officers were reluctant to relinquish the political posts. This attitude was due to civilian fear that a professionally inclined army would be less amenable to their influence than a highly politicized one. Any attempts to modernize or professionalize the armed forces was criticized by the radicals on ideological grounds. The fear of being accused of advocating bourgeois military viewpoint" or branded "revisionists", put professional officers on the defensive when talking about advancing national military technology. Such attitudes hindered the development of combat capabilities of the PLA, specially in regard to conventional weapons and equipment.

55. Ellis Joffe, and Segal Gerald, "The Chinese Army and Professionalism", *Strategic Digest*, vol. ix, no. 5, (New Delhi, May 1979), p. 338.

During the latter half of the 1970s, China embarked upon the programme of "Four Modernizations", namely—Modernization of agriculture, industry, science and technology, and defence. Giving economic development a higher priority than defence was on the assumption that there is no immediate security threat to China. It is advocated that economic construction must be stepped up to strengthen the material foundation of national defence. An article in a Chinese journal emphasizes the importance of modernization of science and technology before economic construction.⁵⁶ The relatively lower priority given to military modernization indicates that the Chinese want to rectify fundamental weaknesses in the pattern and rate of economic development before they upgrade their defence capabilities. Agricultural growth has lagged behind in particular, (2 per cent annual growth). Considering the high costs of advanced military technology, the priorities to domestic economic policies and China's scarcity of capital will combine to prevent the PLA to modernise at a rate it would need to.

All military R & D in China is conducted under the aegis of the National Defence Science and Technology Commission (NDSTC). Its authority extends to defence-related R & D in various military branches, services and regions. It also plans and directs technical and scientific instruction in PLA schools and programmes. The General Staff Department (GSD), The General Rear Services Department (GRSD) and Naval and Air Force also have their own subordinate research institutes for specialised equipment needs. This perhaps results in duplication of effort. Nevertheless, the bureaucratic complications are reduced to the minimum and the user-developer to interaction is intimate. This is achieved by empowering NDSTC to transfer selected PLA officers to work in various institutes and universities involved in military R & D. The overall military research, development and production cycle in China is on the following lines.⁵⁷



Military production is coordinated by the National Defence Industries Office (NDIO) which is responsible to the Central Military

56. Ibid., p. 346.

57. Harvey W. Nelsen, *op. cit.*, p. 62.

Commission (CMC). NDIO controls the ministries of machine-building which are responsible for various sectors of defence production given as follows.⁵⁸

- 1st Machinery and equipment for civilian use
- 2nd Atomic energy
- 3rd Aircraft
- 4th Electronics
- 5th Ordnance (conventional weapons & equipment)
- 6th Ship-building
- 7th Missiles

Some of these ministries are large, employing tens of thousands of personnel with a high proportion of active-duty PLA men. At present five ministries are led by PLA officers who are allowed to retain their military status. The defence-related ministries of machine-building are adjuncts of the PLA. According to William Tow, visiting Assistant Professor of International Relations, University of Southern California, China's defence modernisation will take decades to achieve due to continued competing demands on what is still basically a Third World nation with a fragile technological and managerial infrastructure. The point has also been made by the Military Affairs Commission's mid-1977 review of China's war production capacity. The review disclosed that China's eight machine building industries which constitute bulk of its defence industry produce an excessive capacity of what are essentially obsolete weapons !

China has embarked on an ambitious effort to move to the front ranks of the world powers by the next century. With acquisition of increasingly consequential military capabilities, China will be able to develop a military posture with Western assistance, with a potential to project military power beyond its national boundaries. Although modernization of the PLA eminently suits the American interests of building up the Chinese on the Sino-Soviet border, the likelihood of arms sales and technology transfer may even lead to a Soviet reaction, especially if the Russians find PLA modernising at a pace which is difficult for them to manage.

The modernisation processes in the PLA would also be of serious concern to India for two reasons, inspite of emphasis being primarily

58. Ibid., p. 60.

on mechanisation, anti-tank, and air defence capabilities.⁵⁹ First, improvements in communications, command and control systems, optical and radar devices for surveillance, and helicopters, are well suited to improve the PLA's capabilities in the manpower-intensive conflict envisaged in the Himalayas. Secondly, any Indian attempts to seek Soviet military response on China's northern borders may not be responded in view of the vastly improved Chinese credibility against the Russians. Conversely, PLA planners would be able to spare more infantry formations in the eventuality of a conflict in the mountainous South. Mechanization of the PLA would provide it with even greater strategic flexibility than what it has had so far.

59. See, "Sino-US tie up to hurt India's Security," *Times of India*, 2 October 1983, p. 9.

Of Deputies and Seconds in Command

LT COL ASHOK JOSHI

IN the course of a catechism on the organisation, one of the instructors made short work of the Second-in-Command (2IC): "What does the 2IC do? He anticipates the Commanding Officer's death". This did seem a complete answer in the first year of the commissioned service: beside, there were more increasing things to be done at the end of the day in Poona. Later, when I became a 2IC and a CO myself, the doubt did not wholly leave me. Subsequently, while on the staff of a formation headquarters, I happened to ask one of the newly appointed 2sIC of a Brigade how he was faring and he was keeping himself busy. "I have finished counting the pigs"; he gave me all the details of the piggery which convinced me that he had told me the truth.

We always have had 2sIC at all levels of command upto the battalion and now they have also been introduced at higher levels. We are not the only Army in the world to have this system; several others including the USA and the USSR also contribute to it. Functions of the 2IC have been stated in every unit standing orders and is there much room for (pertinent) doubts? The situation is not at all clear when it comes to the 2sIC or the Deputies of the higher formations. It may be worthwhile to give a second look to the institution of the 2sIC.

A 2IC can be expected to perform a variety of functions. He takes over the command functions whenever the commander is not available. This may happen in peace time, as planned, or may be, following the death of the permanent incumbent in war or peace. This, taking over of the functions of command, may be of a permanent nature or may be in the nature of a make-shift arrangement (till something permanent can be worked out). He may be the 'heir apparent' and under training to succeed the permanent incumbent. He may be required to take over the functions of a subordinate to tide over an absence due to accidents or other contingencies. In short, the 2IC is a 'reserve'. A reserve with a wide employability to boot. Normally, in the day to day functioning, he is to perform one or more functions of command: future planning, some less important administrative

chores, training, welfare activities, and so on. A 2IC, then, is the senior most subordinate who is expected to take over some or all the functions of command either when the permanent incumbent is not available to perform them or when he (the permanent incumbent) delegates the authority to the 2IC. An effective 2IC either shares or takes over the command responsibility. The employment of 2IC in a manner that he merely aids rather than shares command responsibility would amount to his under-employment although it is possible to do so. When so employed, he becomes one more subordinate: one amongst many. He is no longer the 2IC.

Let us examine, if in the first place, there is a need for the 2IC and if he contributes effectively to the organisation. Refer to Diagram 1 which represents the standard organisational tree. Here the Commander is shown to exercise direct control over subordinates 1, 2, 3, 4 and 7 who represent the tier directly under the Commander. Subordinates 5 and 6 work under Subordinate 4 and function under the Commander at one remove. The headquarters staff and advisers aid the Commander in his command functions and some of the authority is delegated to them. The dotted lines in the diagram represent that some orders and instructions are passed through them (staff and Advisers), some decisions are taken by them and they get a portion of feed-back from the subordinate which they process/pass on to the Commander. Wherein the organizational tree can the 2IC possibly be fitted? Positions 8, 9 and 10 show three possible configurations. In position 8, he will be the main channel of communication with the Subordinates. He would become the window through which the Commander would get indications of the ground truths in so far as they relate to his command. The commander will be exercising command over subordinates 1, 2, 3, 4 and 7 at one remove. The way he did over the subordinates 5 and 6. The 2IC would convey the Commander's perceptions, hopes, targets, methods of achieving them and so on. Nothing prevents the Commander, of course, from retaining the direct links with his command (subordinates). But the inputs he would get from the subordinates would be reduced to the extent that he would share these with his 2IC; equally, what he has to convey to his subordinates would be filtered through the 2IC and possibly the subordinates would see two 'images' where they should see only one. To hope that both the channels would work with identical efficiency and produce identical results is to expect a perfection in procedures and persons which just cannot be obtained. And on whom would the responsibility rest, particularly if there is a failure? In short, this is an undesirable arrangement. In practical terms, from whom does a battalion commander seek a clarification on an order emanating from

the brigade major? From the Commander or the Deputy Commander? What happens when the time is short and the orders are in contradiction to the discussion in the earlier conference? An additional link in the chain of command does not make things easier. In position 9 the 2IC is a chief of staff and would function as the head of the headquarters. He will fulfil only a few minor functions of command and exercise some authority which is delegated to him. The commander will deal with all the subordinates direct. In position 10, he will function directly under the Commander, will have no link with the subordinates except when he is asked to do so in a specific capacity and for a specific purpose. In this position, he can be a sounding board for the Commander, can act as a trouble shooter, is readily available for contingencies to replace the commander and can be asked to think of the future since his involvement in the current happenings is not complete. A 2IC directly in the chain of command acts as an unnecessary link and may slow down or distort the channel of communication between the commander and his directly controlled subordinates. 2IC can take on the functions of the chief of staff without similar disadvantages.

Having searched for a niche for the 2IC in the organizational tree, we still have to examine the basic question, ie the need for the 2IC. We have seen that an organisation is not likely to suffer for want of a 2IC in the course of normal functioning ie when the permanent incumbent is away for a short duration. His possible utility is, obviously, related to the contingencies when the permanent incumbent is not available.

How do headquarters function when the commander is away? The powers of command are exercised by the senior staff officers through the officiating commanders while dealing with routine matters. While dealing with extraordinary situations the officiating incumbent takes a decision on the advice of the staff who are there to interpret for him, the 'policy' of the permanent incumbent. If a 2IC were to officiate instead of one of the senior subordinates, would he act differently, or more quickly, or entirely on his own? This seems unlikely. When a commander becomes a casualty, in war, the 2IC can grasp the 'tiller' and carry on. Or will he? Ideally he should. That would be a sufficient justification and *raison d'être par excellence*.

We, in our Army, have not had 2s IC at a level higher than the unit except recently. It is common knowledge that the battalion 2IC was left behind before a major battle: left out of battle (LOB). Very obviously, the 2IC was not expected to step into the shoes of the

Commanding Officer as soon as he fell. Why? In an ongoing battle, either at planning or execution stage, it is not possible for a Commander to share all his thoughts, at all times, with his staff and the 2 IC. The staff themselves are hard put to it to keep in touch with all that is going on. The Commander is busy in gaining first hand knowledge of the 'reality' through contact with subordinates, higher headquarters, flanking formations or units and through personal reconnaissance. In the midst of all this, the 2 IC must fend for himself or, even worse, come in the way. If the Commander falls, the headquarters must carry on till the next permanent incumbent steps in. The 2 IC cannot be taken out of the cold storage, thawed and used for the occasion. At sub unit levels, the 2 IC acted as the adviser (company senior JCO) or had specific functions other than that of being a 2 IC (fetching forward of ammunition and food or being LMG No 1 and so on). A headquarters is trained to function without the commander and the functions and procedures allow a new incumbent to take over the command in a short time. We have an example of a commander of an artillery brigade successfully taking over the command of an infantry brigade in the midst of a battle in Bangladesh operations. We have other examples of command changing hands in the midst of operations without the 2s IC or the deputies being available for taking over: Lord Allen Brook handed over to Lord Alexander in the course of the withdrawal to the beaches of Dunkirk; the latter handed over another 'baby' to Slim in the midst of very difficult circumstances. Do we know of any examples of a 2 IC having taken over from the CO in the midst of a battle?

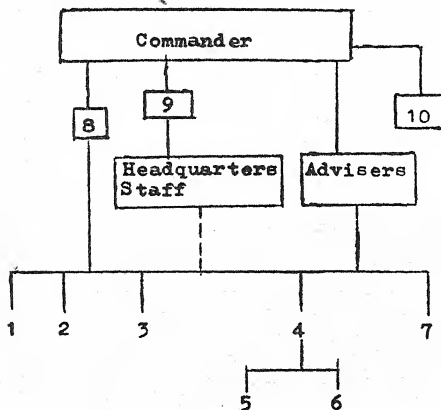
What function does a 2 IC or a Deputy Commander serve then? He is a redundant member in normal times and, in war, is expected to fulfil a role, that of being a standby, which can be taken on by anyone else who is doing a full time job of his own. Increasing reliability of a system by super imposing redundant resources is an acceptable means and there is, possibly, a case for authorising additional officers at the unit and the formation level so that a reserve of officers is available. But this need not be done by superimposing a 2 IC who cannot perform function except by taking over functions of command and thereby debilitating the Commander or, by being a permanent 'bride's maid'.

No efficient organisation can tolerate a 2 IC. There is no room for two at the top. An organisation respects an heir apparent (but does not tolerate if the heir apparent exercises the prerogatives of the Head), it comprehends a vice president or a vice chairman who fulfills a ceremonial function or is merely a standby, pending permanent

arrangements, or has functions which do not impinge on the prerogatives of the Head but rejects a superfluous intermediary who can thwart but cannot speed up.

Have the 2s IC been actually functioning all these years? They have relieved the CO of some or all of the command responsibilities (and usurped some or all of the command) or they have waited on the sidelines and avoided coming in the way or, well, 'counted pigs'. The need for a chief of staff, or finding additional appointments with a view to the promotion prospects, or the need to create training ground ought not to be taken as sufficient reason for continuing with the 2s IC or creating new deputy commander.

Diagram 1



Legend

- 1 to 7 — Subordinates
- 8 to 10 — Possible positioning of the 2 IC.

Standard Organizational Tree

Leadership Dimensions of Social Activities in the Army

BRIGADIER GURDAYAL SINGH

INTRODUCTION

THE Army throughout the ages has laid a great stress on a 'hard day's work' and a good 'fun' at the end of the day; the enjoyment being participative rather than individualistic in nature. The word 'fun' is some-what a misnomer, the right word is 'socialization'. The system of calling on each other, get-to-gethers in the officers' mess, family welfare activities, bara khana, dramatics, Pagal gymkhanas and sports are all part of social activities which have been formalised and are organised with an efficiency of any other Army activity. With the present day financial stringency and rising costs, one wonders why should we continue to lay stress on such activities and risk an image of being an island of prosperity in our otherwise poor nation. To examine this question one will have to analyse the dimensions of leadership and the contribution of social activities towards the leadership effectiveness.

LEADERSHIP DEFINED

Leadership is the process of influencing the activities of an individual or a group in efforts towards goal achievement in a given situation. In essence, leadership involves accomplishing goals with and through people. Therefore a leader must be concerned about his task and the human relationship with his subordinates, peers and the boss.

DIMENSIONS OF LEADERSHIP

From the above it is clear that there are two dimensions of leadership, task and the people (human relationship). Each of these dimensions need further elaboration.

TASK DIMENSION

It is the concern with level of production or goal achievement. Here the stress is more on technical efficiency, standardised work procedures, highly structured jobs and close supervision. The man is

expected to function with machine like efficiency and the human factor counts the least. This dimension falls within the ambit of scientific management school of thought, Fredrick Taylor being considered its father.

PEOPLE DIMENSION

This dimension falls within 'Human Relations' school of thought initiated by Henry Fayol. Stress is more on human factors rather than technical factors of task achievement. It includes activities concerned with individual growth and development, delegation, motivation, judicious reward and punishment system. Here the focus is on individual needs both physical and psychological and interpersonal relations. This would include better living and working conditions, recreational and Social Activities.

The above two dimensions of leadership do conflict with each other but they are not either/or forms of activities. As scheduled maintenance is essential to achieve higher machine efficiency, so the group maintenance (human relationship oriented) activities are needed to achieve higher group effectiveness and output. The aim should be to find an optimum mix of the two dimensions to suit the situation and the individuals (followers, peers and boss).

MANAGERIAL GRID

The famous Robert H. Blake Managerial Grid identifies five different types of leadership based on different mix of concern for 'Task' and 'People' dimensions.

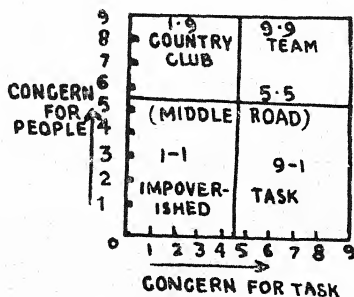


Fig. 1 Managerial Grid

Concern for Task is illustrated on horizontal axis and concern for people is shown on vertical axis. Both are represented on a 9 point scale. Higher the point on scale, more the concern for Task or People as the case may be. The five types of basic leadership styles are described below :

- (a) *Impoverished Leadership*. Very low concern for people as well as for task. In fact no leadership is provided. Minimum effort exerted just to remain in the organisation.
- (b) *Country Club*. More stress on building social relationships and comfortable friendly environments. Task objectives and work tempo is kept at low and comfortable pitch.
- (c) *Task*. A task master, human element considerations are kept at a low key. Division of work, its layout, work procedure and work tempo organised more for machine like efficiency rather than human considerations of variety, job satisfaction and job enrichment.
- (d) *Middle of the Road*. Adequate organisation performance is possible through balancing the necessity to get out work while maintaining social and morale building activities at a satisfactory level.
- (e) *Team*. Team spirit is built up by high degree of concern both for task, social and morale building activities. The work accomplishment is from highly committed and dedicated people with a lot of mutual trust, understanding and respect.

In the Army, by virtue of scientific selection of leaders and through intensive and result oriented development programmes and an objective appraisal system we generally do not find 'Impoverished' and 'Country Club' type of leaders. The leadership styles lie on the

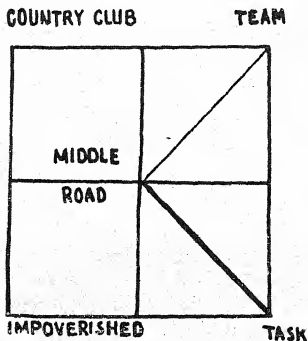


Fig. 2 Range of leadership styles in the Army

path 'Task-Middle Road-Team', depending on situation and composition of subordinates.

SOCIAL ACTIVITIES

Reverting to the focus of this article, social activities form an important and vital component of the people (human relationship) dimension. Though the 'people' dimension has got much wider implications, hence forth for the purpose of our discussion we would use it inter-changeably with the 'Social Activities'.

Social intercourse off the work situation helps in creating a mutual rapport as human beings. Any organisation which places high psychological and physical demands on its members and is very exacting in its expectations, can retain human balance and cohesion only by ensuring that its members socialise with each other regularly to smoothen the distortions in interpersonal relationship created during work situations. What lubrication means to a machine, social activities means to the people.

LEADER—BOSS, LEADER—PEER RELATIONSHIP

Blake's Managerial Grid describes the leader/subordinate relationship. However, the underlying concept is very versatile and can be used to analyse various types of relationships and situations. A leader in the organisation at once plays three roles of a boss, a subordinate and a peer. Each of these roles has the same two dimensions of Task and Social Activities (People dimension), which have to be optimised for effective role performance. We know various instances where a highly social boss, subordinate or peer with less concern for 'Task' has achieved the same degree of success if not more than his counter-part who is highly task oriented and less inclined towards social activities. Within these two extremes we have various mixes of the two dimensions as in the case of the Managerial Grid. The socially oriented leader keeps the human component of the organisation well maintained, lubricated and greased, while the Task oriented leader overtakes the human components causing high wear and tear and resultant rattling and break-down.

ORGANISATIONAL DILEMMA

A task oriented leader can often achieve short run quick results by placing extreme pressure on the human component. If this style continues over a long period of time the morale and climate of the organisation will deteriorate. Indication of such a deterioration will

be provided by increase in disciplinary cases, sick rate, insubordination, overstayal of leave, accidents, requests for posting out and anonymous letter and complaints.

The organisational dilemma is that in many instances a leader who places such high pressures on human resources and achieves short run high out-put gets rewarded and posted out before the disruptive aspect of the deterioration effectively catches up. There is always a time lag between increased out-put and disruptive behaviour in the hope that 'things will get better'. Thus such a task oriented leader generally stays one step ahead of the wolf.

The real problem is faced by his successor, who inherits the over-taxed and ill maintained human component. The time lag catches up and production goes down, and disciplinary cases go up. An attempt by the new leader to indulge in morale building social activities will show results again after considerable effort and time lag. An immediate comparison between the two leaders' performance may project the successor as inefficient while the real blame lies on the quick result oriented task master. Thus while assessing the effectiveness of a leader one must also assess stresses and strains brought about on the human component by lack of concern for group maintenance (or social) activities.

LEADER PERSONALITY

In the Army a leader is expected to have a split personality—an 'official personality' during work situations, and a 'social' personality during 'off the work' situations. However there is always an area of over-lap which cannot be avoided though it is required to be kept to the minimum. Unlike his civilian counter-part he is not expected to discuss golf during business hours and business while playing golf, though such a trend is setting in where 'talking shop' during social get-together is not a 'taboo' now.

However, the concept of split personality still holds. Under such a behaviour pattern it is imperative that the leader must create opportunities for sufficient social contacts and must actively participate in these. Otherwise, psychological distortion and gaps between him and the people are bound to increase, with ill effects on organisational health.

DIMENSIONS OF SOCIALISATION

Having discussed the inherentness and importance of socialisation to an effective leadership, let us examine its dimensions.

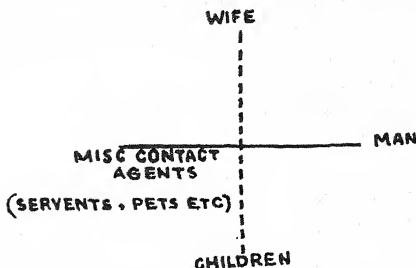


Fig. 3 Dimensions of Socialisation.

These are the man himself, his wife, his children and miscellaneous contact agents, eg servants, pets etc. The aids to sociability could be common hobbies, interests, habits and value systems and beliefs. Even commonality of domestic gadgets, appliances and personal transport are great aids to socialisation, specially those which are difficult to operate or are defect prone.

The man and his wife are the most important of the dimensions of socialisation. Next comes the children dimensions and the last the miscontact agents. All these dimensions interact not only with their opposite numbers but also with each other to a varying degree. For example 'man' not only inter-acts with 'man' but also with the wife and children of his counterparts. Similarly if your 'dog' plays or fights with the 'dog' of your peer or boss a certain degree of social interaction, positive or negative takes place between you and the other person. Also, it is possible that your boss's children become fond of your 'dog' and thus resulting in a social transaction between the two.

MAN-WIFE AS A SOCIAL UNIT

As mentioned earlier, the man and the wife are the most important dimensions of socialisation. Now these two can form various 'socialisation combinations on the analogy of the Managerial Grid.

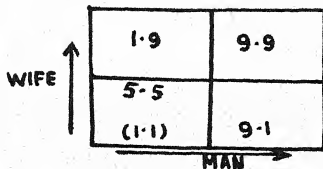


Fig. 4 Socialisation Grid—Man and Wife.

- 1.1—Both husband and wife having low level of socialisation.
- 1.9—Wife highly social-man does not contribute much.
- 9.1—Man highly social-wife does not contribute much.
- 5.5—Both man and wife fairly social.
- 9.9—Both husband and wife highly social.

SOCIALISING SITUATIONS

The man-wife dimensions can result in various types of socialising situations between any two sets of people.

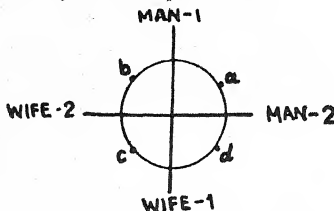


Fig. 5 Socialising Situation—Man-Wife.

The interaction takes place between man-man, wife-wife and wife-man to a varying degree in the four quadrants as shown in Fig 5. Let the points of interaction be a, b, c and d. The area enclosed by the curve a b c d describes the socialisation effectiveness area. The attempt should be to enlarge it as much as possible. This can be achieved by increased socialisation opportunities and having common hobbies, interests and other aids to socialisation.

We have taken due notice of the various dimensions of socialisation i.e. man, wife and children and have incorporated them in the Army way of life. We have almost institutionalised various forms of social activities, resulting in a minimum level of assured inter-action as under :—

Types of Relationship

Activity	Man—Man	Man—Wife	Wife—Wife	Man—Children	Wife—Children	Children—Children
Family Welfare Centre	—	—	✓	—	✓	✓
Officer Ladies Club	—	—	✓	—	—	—
Social Function in Officers Club/Mess	✓	✓	✓	✓	✓	✓
Pagal Gymkhana	✓	✓	✓	✓	✓	✓
Bara Khana	✓	—	✓ (SOME—TIMES)	—	—	—
Miscellaneous activities such as sports, Dramatics, Organised Picnics, visits & other recreational (including cards and mahjong sessions) and social activities.						

Multiple dimensional interactions, depending on types of participants.

The above activities though providing 'fun' must be viewed from the point of view of their contribution to the leadership effectiveness. Unless we understand the above rationale behind these activities we are likely to allow them to die away under the pressure of financial stringency. These activities are as vital as our smart turn-out, PT and drill parades and various other ceremonial functions.

CONCLUSION

Social activities in the Army are not an exercise in enjoyment and luxury, but are an essential part of the practice of leadership. A leader who purely depends on 'Task' relationship is bound to come to a grief. To ensure motivating environments and adequate group maintenance a leader must ensure that he provides enough opportunities and contact points for social activities, between himself, his subordinates and peers.

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War Without Death

LT COL M M BHANOT

"The scientists speak with an authority which the ordinary citizen, the non scientist cannot challenge, and to which he is compelled to listen. Since they cannot hope for much help from the generals or the ministers, they must act by themselves, in a supreme endeavour to avert the mortal dangers which confront the mankind."

—P NOEL BAKER

INTRODUCTION

IN today's political dialogue the effort is to eliminate war as a political weapon. The super powers are indulging in an incessant effort to dilute the capability of each other and to develop new series of weapon systems. They at the same time suppress the scientific manufacture of developing nations by cleverly coining the non-proliferation treaties and by threat of curtailment of economic sanctions, while they themselves are involved in the development of more and more lethal weapons. The world as such does not want the development of weapons of mass destruction which make the "benign war", war in which no property is damaged and no one is irrevocably injured. These weapons can cause "War without Death" by chemical action and biological contamination. It would be too easy to see how such weapons become immensely popular, so much so that war may become an everyday activity. If that be so these new weapons may destroy all that is valued as human. Such are the dangers of the chemical and biological warfare (CBW), the mode of war for tomorrow.

CBW is not new to the art of warfare. It has been used over the ages. It is lamentable that there is at the moment no governmental action of any kind, in any country to control or slow the speed of development. This is in spite of the fact that our main existing constraint, the Geneva Protocol has been lately, seriously and perhaps finally violated by the Americans in Vietnam. This is the signal for each nation to warn that such protocols are no guarantees and the best defence, thus, is to develop a capability to deter our adversaries in this field and train the armed forces and civil population alike against this calamity.

In 1925 the Geneva Protocol came as the first agreement to ban the use of chemical agents as a weapon of war. It included a special mention of biological weapons. 42 nations ratified USA did not. In Dec 1966 the above protocol was reconsidered, a motion was put forward in the UN general assembly which, in effect, called upon all member nations strictly to observe the protocol and invited to accede to it. The motion was passed with USA voting for the resolution and made public their resolution to abide by the protocol. We all know what happened thereafter in Vietnam. How can such actions of the USA be reconciled against their declarations in the UN general assembly. It may be explained that such ratifications may not explicitly bind the policy of the nation. The parliament or the senate in existence may exercise its blocking power as it happened in 1966 in USA. The nations may also try and misconstrue the spirit of the protocol and try and find loopholes to justify their actions and indulgence. India today finds itself locked between such neighbours, who have fluid and flexible policies. China has a built in CBW capability in its organisations. As would be explained later in this article they have already acquired the technical know how and have built both defensive and offensive capability. Pakistan is believed to have built up its arsenal with the help of China and its other allies. It is, therefore, imperative that India starts its scientific research wholeheartedly and prepare itself for the future wars. A credible capability in the CBW field would act as a deterrent before an adversary embarks upon any major venture. Let my this article be a trigger off in CBW field and induce those higher up to start an honest review of our capabilities and policy in this field.

HISTORICAL BACKGROUND

The use of toxic weapons is also ancient, the oldest recorded use was in 600 B.C. when great Athenians legislator Solon had roots of hellebore thrown into a smaller river water which his enemy used for drinking. The result was the attack of diarrhoea and defeat of the enemy. In 200 BC a Carthaginian general played a clever tactical game, he made a tactical withdrawal and left behind large stocks of wine treated with Mandragore a toxic root with narcotic effect. Enemy was slain in deep sleep.

In 1155 emperor Frederic Barbossor took Italian town of Tortuna by poisoning its water supply. In fact to make doubly sure of his victory he also resorted to chemical warfare by adding to the water burning torches of tar and sulphur which made it virtually undrinkable. During the crusade bio war was extensively practised and plague ridden bodies of one side were introduced into the camp of the

other side to spread disease. Sir Jeffery Amherst C-in-C of British Forces in America in 1763 had two blankets and a handkerchief from the British smallpox hospital sent to Indian chief with the result that an attack of smallpox soon broke out. In 1855 the British General Dundonald suggested use of sulphur dioxide in the seize of Sabastopol and in 1862 chlorine was suggested to be used in the civil war. French used tear gas grenades in Aug 1914 to cause more than a million casualties. On 27 October 1914, Germans bombarded British Forces at Neuve Chapelle (Northern France) with sharpnels containing an irritant and the Russians in 1915 with Xylol Bromide. On 22 April 1915 in the vicinity of Langermarck near Ypres 500 cylindres (168 tons) of chlorine inflicted 15,000 casualties on the opposing forces. On 25 September 1915, the British retaliated on Germans at Loos. The escalation brought in the use of chlorine, phosgene vomiting gas and mustard gas causing 800,000 casualties; some estimates give the figure of 1,300,000 with 91,000 dead. The impact of this escalation was so severe that when Hitler had ordered his commanders to use nerve gas to repel the D-day invasion, this order was not executed for fear of retaliation. In 1915 the German agents inoculated horses and cattles which were leaving the United States for Allied ports with disease producing organisms to cause anthrax and glanders. First use of gas warfare was in France during World War I. The German activity during World War I included spread of Typhus among both Soviet civilians and troops. They also had a plan to propagate the virus bactrium Seratia Marcescaris in underground railways in London and Paris.

Open use of CBW came to light during World War II (This statement is subject to debate). The Japanese built two establishments in Manchuria, one near Harvin where 1,500 to 2,000 human guinea pigs died as a result of Bio warfare, experiments. This was disguised as a Red Cross Unit. The Japanese had made plague attacks in China and it was confirmed by their prisoner of war and C-in-C of Kwintang Army. USA had established camp Detrick research centre in CBW. Dr Theodore Rosebury a scientist who worked at Camp Detrick alerted the public conscience to the dangers of biowarfare and the American efforts to master this art. UK also had established a new equivalent of camp Detrick, the Micro biological Research Establishment at Proton (Wiltshire) UK.

After the World War II CBW was employed in Vietnam in 1966 and the confessions of American airman who dropped bio bombs spoke for themselves. Both the Super powers and their allies today are spending millions on this war without death or the cheap method

of waging war. Some even feel that this war is even being waged during peace time to undermine the war, preparations or weaken nations on the other side of the fence. Some suspect the flu in late 50's and encephalitis epidemic during last few years in the East as an outcome of clandestine bio war experiment of some developed nation.

THREAT

Historical facts and events enumerated above have proved that no amount of protocols or resolutions can eliminate the use of CBW in future. The fear of retaliation is the only caution or limited guarantee. Every nation is aware of the potential of CB Weapons. As Brig JA Rothschild of US Army said "a single ounce of the toxic agent which causes the disease called Q fever would be sufficient to infect 2.8 billion people."

C B Weapons offer the possibility of taking enemy strong holds a territory without destroying property, power stations, communication net works roads or bridges in that territory. They are cheap to produce as compared to nuclear and are cheaper to deliver. These form the new spectrum of the weapon systems already available. A spectrum midway between the conventional and the ultimate. It could be air dropped, spread by saboteurs and disseminated through variety of animal and insect carriers. It is cheap and non destructional method of warfare as panacea of future conflicts. There is such a thing as legitimate warfare; war has its laws, there are things which may fairly be done and which may not be done....." *.

Developed nations are equipping themselves and their satellites with the CBW technology and the weaponry. 1959 estimate of Sino-Soviet CW machine shows 8 million men grouped in 400 ground divisions. USSR inherited China with stockpiles of major post world war II Chemicals. China has subsequently developed some more and exported these to Egypt, North Vietnam and may even be to Pakistan. There is micro bio development all around and our adversaries are not and shall not remain behind in this field. The danger of CBW looms high in future conflicts and it is time India prepares itself and builds a second strike capability to deter our adversaries from undertaking any CB strikes against us.

EFFECTS OF CB WEAPONS

Characteristics and effects of Chemical and Biological Weapons in general are given at the Appendix attached.

* Cardinal Newsman

The goal of course, is to render the enemy incapable or move—that is, we would like to be able to paralyse the voluntary body functions while allowing the involuntary to function normally. Lesser effects, however, might be just as acceptable—for instance temporary loss of sight or disruption of normal body functions by inducing such things as vomiting, dysentery or various types of food poisoning.”*

“Any method which appears to offer advantages to a nation at war will be vigorously employed by that nation. There is but one logical course to pursue, namely to study the possibilities of such warfare from every angle, make every preparation for reducing its effectiveness and thereby reduce the likelihood of its use”—said GW Meride. The manifestations of this holocaust were seen by Col Dan Crozier, US Army when he said, “Even with so called non lethal agents some deaths will result. These are to be expected in infants, elderly people and those already suffering from serious disease.” Biological weapons also threaten the ecology of our planet or at least a substantial position of it to a greater extent than even nuclear weapons. There is a chance that if a large scale nuclear attacks were launched it would produce a permanent change in the balance of nature. But the prime purpose of the attack would be to destroy people and not property. It would have only a side effect, so to speak, on animal and plant life, killing off some species and leaving others to flourish in an ‘*embarass de richesse*’. All this amply clarifies the effects that may accrue from the CBW.

There is very little to choose between the two devils i.e. Chemical & Bio Weapons. But Bio Weapons are the one which have the greater potential in the warfare of tomorrow. Far less material is needed in this case to harm the enemy than toxic material. Single virus or bacterium once established inside reproduces with astonishing rapidity. The details given at the appendix unfold the vast horizon of methods of ingestion and variety of carriers. Future wars would therefore demand greater measures like :—

- (a) Protection against carriers e.g. fleas, ticks, flies, mosquitoes and bugs by high standards of hygiene & sanitation.
- (b) Avoid contact with infested animals which would mean frequent checks and prophylactic treatment of these animals & their attendants.
- (c) Regular inspections of factories and periodic check of the tinned food products prepared by them to guard against contamination.

* Albert E Hayword

- (d) Provision of protective equipment and clothing to troops and civilians likely to be exposed to CBW.
- (e) Training of troops and civilians in reporting of development of symptoms given at the appendix immediately on occurrence and treatment of the same.

Effects of use of CBW Weapons on Tactical Area. Critical analysis of these weapons, as explained above, would reveal that it helps the commander of the tactical area to inflict and also suffer casualties to unprotected personnel and equipment and even untrained protected personnel. Its threat make the adversaries to adopt protective measures which would effect their mobility, impede the rate of advance, restrict the use of terrain and channelise the forces into a particular area thus creating a target for area weapons, conventional or nuclear. The humidity and rain also reduce the ingestion power of the weapons thus restricting the choices of campaigning seasons and suitable areas. While protective equipment saves casualties its bulkiness forces people to use it at the last moment thus increasing the casualties due to surprise CBW attacks. The immunisation and prophylactic treatment may protect people against virus. But the vast variety of virus creates problems of development of suitable serum and also control of side effects. Lastly these are all double edged weapons and the adversaries with suitable sensors may expose the attacker to the hazards by tactical manoeuvres.

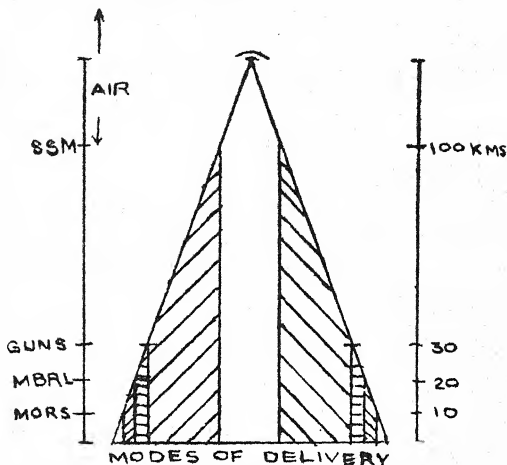
TACTICAL DOCTRINE

Above facts would lead us to the evolutions of a tactical doctrine. What follows may not be an ideal solution. Even if it has tickled your thought process in CBW field the purpose of this article is achieved.

Variety of weapon systems provide great flexibility in employment of both persistent and non-persistent Chemical and Biological agents. The capability exists both with Pakistan and China to deliver these agents by aircrafts, helicopters, SSM, MBRL rockets artillery, guns and mortars. These modes of delivery can cover the entire tactical area as shown graphically and thus making every one susceptible to this potent lethal weapon system. Therefore, we must be prepared to :—

- (a) Detect, monitor and protect our personnel and equipment (service and civilian alike) against CB agents in the first strike mode;
- (b) Conduct operations even when the environments are contaminated; and

(c) Retaliate with a credible second strike capability with greater intensity than the first strike of the adversary.



Our doctrines must be based on surprise, security, superior technology and intensity to retaliate. To maintain surprise we must be able to achieve secrecy, high standard of camouflage, concealment and deception. Dispersion in deployment, careful selection of deployment areas, organisation of defence in depth and preparation of static and mobile NBC protected headquarters (including service headquarters) and communication centres, provides security. The troops must be educated and trained in this new field. During formation training troops must be made to recce and operate through contaminated areas and SOPs so worked out. We must develop and deploy sensors well forward to detect and monitor the use of CB Weapons. Our modes of delivery for counter strike must be developed to hit the enemy deeper in his territory, and these weapons must be authorised down to divisional level. The tactics should be geared to meet the challenges of the NBC battlefield of the future.

CONCLUSION

World War I accounted for 5% of civilian casualties, World War II 48%, the Korean War 84% but the CBW would account for 90% civilians killed or maimed. Results of a war-game on CBW conducted

by the USA made horifying revelations—75% of the enemy troops were assumed killed or incapacitated, these were 600,000 neutral or friendly civilian casualties in Chinese army, advancing from Vietnam into Combodia. These casualties show as drastic results as the nuclear war if not more.

The results of the opinion poll conducted by the 'Industrial Research' magazine in the USA were further revealing. 65% to 81% people felt that use of CB Weapons in Vietnam was justified, 89% felt that USA should develop CB Weapons 67% wanted that USA should not make any firm declaration of restraint from the use of CB Weapons at this time.

CB weapons systems are perilously difficult to negotiate as the nuclear weapons controversies have shown. Protocol is getting obsolete, the danger being that it may be scrapped before anything new emerges. If that happens I cannot see anything that will prevent an all out CB war in future. Moreover the protocol does not preclude the right to retaliate. Then why not prepare ourselves for it and meet the challenges of tomorrow. We must develop CB Weapons, psych chemicals and anaesthetic agents today.

"Beat your plough shares into swords and your pruning hooks into spears, let the weak say I am strong".

— Joel

CHEMICAL WEAPONS

Trivial Names	Physical State	Smell	Disseminated Form	Symptoms of Intoxication	First Use	Remarks
Lethal Agents						
1. Phosgene	Colourless gas	New Mown hay	Gas	Lethal cough. Reiching. Asphyxia Pneumonia	Germans in 1915	Produced 80% cas in W War I
2. Prussic Acid	Colourless liquid	Bitter almonds Vapour	Vapour	Lethal giddiness, convulsion, Asphyxia	France 1916	USA has it today
3. Distilled Mustard	Colourless or Amber oily liquid	Faint garlic	Vapour liquid	Harassing eyes, Ulceration, Blindness	German 1917	Most popular agent of W War II
4. Sesqui Mustard	Solid	None	Aerosol	Lethal	UK, USA German in W War II	
Nerve Gas						
5. Tobur	Colourless or dark brown liquid	None or Fruity	Vapour liquid Aerosol	Harassing eyes, Blurred vision eye balls burst	German 1937	
6. Sarin	Colourless liquid	Almost None	Vapour none	Respiration, chest tightness Breathing difficulty	German 1938	
7. CMPF	Liquid	—	Vapour liquid Aerosol	Lethal drooling sweating, narisea vomiting, cramps Headache, coma		

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Harassing Agents						
8. BBC Camite	Pinkish crystal to brown oily liquid	Soured fruit	Vapour Aerosol	Burning feeling in mucous membrane irritation in eyes	France 1918	Useful as a persistent agent
9. CAP	White crystal	Apple Blossom	Aerosol	Burning feeling on moist skin, cupious Lachrynation	USA 1918	
10. Adamsite	Yellow to brown crystal	Almost None	Aerosol	Headache, sneezing, coughing, chest pain, nausea vomiting	UK, USA 1918	
11. OC BM (OC BM)	White crystal	Peppry	Aerosol	Stinging and burning feeling on skin, coughing, chest tightness, nausea	UK early 1950	
Incapacitating Agents						
12. BZ	Solid	—	Aerosol	Slowing of mental and physical activity, giddiness, disorientation Hallucinations	USA 1950 by 1963	

BIO AGENTS

Diseases	Effects	Transmission	Vaccine	Therapy	Epidemicity	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bacterial Diseases						
1. Anthrax	Respirator (fatal)	Inhalation, skin infection	Available	Antibiotics	Low	Most Stable
2. Brucelliosis	Recurrent fever	Inhalation ingestion	In USSR	"	"	Effects men and animals
3. Cholera	Intestinal infection	Ingestion	Reduces effect in a Luica	Difficult	High	—
4. Glanders	Acute fever (fatal)	Inhalation, ingestion	Unsatisfactory	Ambiotics	Low	—do—
5. Melitoidosis	Fatal fever, mania	—do—	—do—	Difficult	Low	Very rare diseases
6. Plague	Very severe (fatal)	—do— Injection by fleas	Available	Antibiotics	High	Only pneumonia plag useful of BW
7. Tulaemia	Severe fever (5—8% fatal)	—do— Injection by insects	—do—	—do—	None	Good BW agent
Viral Diseases						
8. Breakbone fever	Most incapacitating fever	Inhalation, injection by mosquitos	Available	Difficult	Low	Incapacitating agent
9. Smallpox	Severe, often fatal	Inhalation injection	Mass produced	—do—	High	
10. Yellow fever	Jaundice type fever, 30% mortality	Injection by mosquitos, inhalation	—do—	—do—	None	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rickettsial						
11. 'Q' Fever	Fever for 1 week	Inhalation ingestion injection by ticks	Available	Antibiotics	None	—
12. Epidemic typhus	Severe often fatal	—do— injection by louse	Mass produces	—	High	Unlikely BW agent due to fever stability
Fungal						
13. Coccidioidomycosis	Mild to severe fever	Inhalation	Un-satisfactory	Antibiotics	Low	
Toxin						
14. Botulism	Severe poisoning 60—70% mortality	Inhalation ingestion	Available as toxide	Difficult	None	

Fear—Genesis and Coping Strategies

(With Specific Reference to Military)

R P GAUTAM*

NO man is born with fear, but also there is no man without fear. A common man in fact is haunted by fear from cradle to cremation ground. The degree and form of fear however keep on varying. In childhood there are fears of fire, animals, loneliness, loss of toys and so on. These are replaced in adulthood by fears of low income, loss of reputation, failure to get promotion and host of similar apprehensions. Onset of old age further adds to them. Text books of psychology list more than 180 kinds of fear. Most common among them in the military situation are the fear of death, the fear of unknown, the fear of impotency, the fear of venereal diseases and fear of family-security.

The emotion of fear like other emotions manifests itself in physiological, behavioural and mental forms. When struck with fear, a man loses control over his excretory system and his respiratory system and blood circulation are disturbed. His facial colour gets pale and his body starts trembling. Mentally he feels sinking sensation and exhausted. On behavioural front, he may run away speedily or assault the source of fear violently.

People tend to differ in their resistance to fear. That is why different people display different symptoms in the same emotion of fear. In face of danger some people tend to run away while others would face it boldly; some happen to breakdown while others can withstand it; some would react with doubled up driving force while others may adopt an escape-mechanism by way of falling ill, developing drug-addiction or even committing suicide.

SEEDS OF FEAR

Seeds of fear are ingrained in our social environment. Man just picks them up from there and allows them to grow within himself. The ways in which he cultivates these seeds of fear are given below :—

- (a) *Imitation* :—A child tends to reflect the fears of his elders. An adult simply by his over-reaction to a situation arouses in the

* Senior Psychologist SSB Allahabad

child an emotion of fear. As the children possess a strong tendency to imitate, they tend to introject the reactions of the adults around them. It is thus manner that the seeds of many fears of life are sown in the childhood. Thus the fears of storms, thunder, thief, ghost, loneliness, darkness etc. are learned by imitation. Even the fear of death is learnt when the child sees in his family the old grand-mother or others being afraid of death.

Sometimes the adults also tend to imitate fears of others specially those whom they identify with as their hero, ideal or a model. In a military situation, an officer is the ideal for his men and the commanding officer is the model figure for the whole battalion. If an officer happens to show a fear-reaction to a particular stimulus or a situation, his men are found to adopt the same fear almost as a reflex action initially at conscious level of mind and subsequently at unconscious level.

(b) *Association* : Many fears are learned by process of association. The famous Proverb, "A burnt child dreads the fire" explains the learning by association. If a child is once bitten by a dog, he tends to be afraid of all the dogs and even the animals resembling dog in size and shape. In simple words, a man begins to be afraid of all those objects and situations which are in any way associated with the actual source of fear since a strong link (association) is formed among them in the mind.

(c) *Reward-Seeking* : Sometimes an individual shows signs of a fear just to attract attention of others or invite their sympathy. A pilot complaining of fear in flying beyond a particular height may be craving unconsciously for the attention of his Commanding Officer which he might have failed to achieve otherwise. When he complains of fear, his colleagues and the Commanding Officer all pay their attention to him and also show sympathy in various ways. This provides him the satisfaction of his unconscious need of recognition.

(d) *Traumatic experiences* : Sometimes the fear is an outgrowth of a traumatic childhood experience. When the parents fail to heal the wound caused by such an experience in the mind of a child, he grows along with the fear. As a result whenever any stressful situation such as patrolling along a tense border arises, he becomes fear-conscious.

(e) *Feeling of insecurity* : A man who is not given enough affection and attention in his childhood by his parents, tends to bear with him the feelings of insecurity and anxiety. These feelings lead him to develop undue fear of authority and any such situation which he may not have come across in the past. Thus, faulty upbringing makes him vulnerable to fear.

(f) *Suggestion* : Some of the fears emanate from faulty suggestions and suggestibility. An important example is the fear of high altitudes. In a study the reason advanced by some of the troops for this fear was the likelihood of developing impotency. When the investigators went into its genesis, they found that the

troops developed such a fear because they were told by some of their co-legues to that effect and subsequently they felt their male organ shrunk and also lack of sexual excitement.

(g) *Limited exposure and lack of Information* : Children who are not given adequate exposure to various facts of life, tend to be more susceptible to develop fears when-ever they experience some difficulty in their adult life. Similarly, the troops can develop even panic if not correctly informed about the strength and tactics of the enemy, aims of war and the geographical conditions of the area. In fact, ignorance can be called a breeding ground for the phenomenon of fear.

IMPLICATIONS OF FEAR

Fear is generally perceived something which is not desirable. But it is not so. It has an ambivalent appearance. It has both negative as well as positive, implications. The same are given below.

NEGATIVE IMPLICATIONS

Fear generally connotes a negative image that no body would like to have. Its negative implications specially in the military set-up are as follows.

(a) *Low Morale* : Fear is said to be the main enemy of morale. As a result, fear reduces the morale of the troops and brings down their efficiency thereby. In a battle field, it may bring disaster through defeat and loss of men and material.

(b) *Reduced Social Cohensiveness* : Fear disturbs the healthy social interaction among the troops. Their attitudes and reactions towards one another tend to be haphazard and the team-spirit gives way to a suspicious atmosphere.

(c) *Poor Discipline* : Troops when taken over by fear show scant regards for discipline. They lose control over their muscles and mind, and behave in a helpless and haphazard manner.

POSITIVE IMPLICATIONS

It need not be surprising that fear has some positive value also. However it would depend upon various factors like the degree of fear, the aim to be achieved and the leadership provided in the state of fear.

(a) *Adaptive Value* : Some fears are useful as they have survival value. It is so because they enable us to adopt our behaviour as per the demands of situation. For instance it is because of fear only that we either keep away from risky situations or arm ourselves with protective things. To quote Forgione "Adaptive fears keep us out of harms by instilling in us a tendency to avoid situations that truly threaten our lives, our health and our happiness". (Fear-Learning to Cope, 1978).

(b) *Release of Additional Energy* : Emotions are also a motivating force. Therefore fear (like motivation) stimulates the muscles and other physiological parts to release additional energy so that the man can protect himself from danger. It is for this reason only that some times in war such feats are accomplished as would have been very difficult in normal state of mind.

(c) *As a Deterrent force* : Fear also acts as a strong deterrent and checks the man from being indisciplined. Man's behaviour is basically determined by instincts which are impulsive by nature. But for fear his behaviour would have been probably as impulsive irrational as that of animals. It is due to various fears only such as fear of punishment, fear of losing reputation, fear of incurring economic loss, fear of being deprived of job etc. that man acts in a socially desired and disciplined manner. We obey rules and regulations, follow the law of the land and respect authority probably more due to various fears than any other single factor. In fact, many of the soldiers face the fear of death just to avoid the fear of losing honour or falling in the hands of enemy.

In view of such a paradoxical nature of fear we develop an ambivalent attitude towards fear. For instance we would like our men to be fearless but would also wish them to have various fears that of God, fear of authority and fear of losing personal honour are such fears which we would like to have. In military, the fear of authority and Army Act will have to be invoked at the initial stage of training to make the troops disciplined, skilled, alert and bold to face the fear of enemy. Fear is therefore not such a phenomenon which is only to be avoided and despised. It can be made good use of also, depending upon the situation and tactfulness of the leadership.

PREVENTION OF FEAR IN MILITARY

The problem of fear in our forces can be overcome to a satisfactory extent in three phases. These are the selection, training and deployment. To quote Moran, "when an army is being trained to fight, it must, begin, by weeding out those whose character or temperament makes them incapable of fighting If that is found to be impossible, the army must fall back on daily observation of the recruit during his training to detect signs of instability. If both fail to expose latent weakness of the young soldier, it is left to war itself to strip the mask from the man of straw, which it will do with a quite ruthless precision of its own". (The Anatomy of courage).

Selection : As stated above, selection offers the first opportunity to screen out those candidates who show signs of a deep rooted fear. This can be accomplished by subjecting the candidates to certain

physical and psychological tests, which could assess to a reasonable degree, their capacity to face dangers. At present, this is being done at the Service Selection Boards for the officer's entries by employing well-tried three techniques namely, the psychological tests, the group tests and the interview. A few situations on the similar lines can be introduced for the troops recruitment also so that such candidates could be screened out who would show undue hesitation to face a danger. At present the Recruiting Officer checks their physical fitness only. There is no tool in use to assess their mental robustness. Probably this is based on the belief and expectation that training will take care of it.

Training : As stated earlier, fear is an acquired phenomenon. It can therefore be reduced to a considerable measure by an intensive and well-planned training. A good training attains this goal in two ways-by inculcating discipline and by creating self-confidence.

Discipline does not allow the fear to get into the man as the training makes him face the fear almost as spontaneously as a reflex action. In other words, discipline makes the muscular reaction get an edge over the effective reaction. He faces the danger automatically rather than flee it depressively.

Self-confidence enables the man to use his weapon as well as his skill in face of danger. Feeling of fear may not approach him and as a result, he is able to exploit his skill, energy and fire to the maximum.

Both these aims can be attained in the following ways :

(a) The recruits should be preferably trained by such officers who have passed through the experience of war. At the outset, they should explain the nature, cause, effect and strategies to bear with fear.

(b) This should be followed by extensive and exhaustive drill with a view to increasing their resistance to fatigue and also to streamlining muscular coordination which are very important for subsequent performance.

(c) Then the instructors should proceed to devise specific drills to meet specific situations like ambush, patrol, war, withdrawal etc.

(d) Sound training should also be imparted in the use of weapons and tactics. The men should be able to use the weapons with perfect ease and order. They should also know how to rectify minor bottlenecks which may arise in course of operation.

(e) Periodic exercises can be chalked out to train and test the effectiveness of training. These should be, as far as possible,

the miniature forms of the war-situations which are likely to occur in confrontation with the enemy. They should be made immune to shelling-shock and similar other battle experiences.

(f) Training should be given in defensive as well as offensive roles, the men should be made aware of the various psychological reactions in the human mind and trained to take adequate advantage of it.

(g) Training should also be used to identify such men who are overladen with fear and apprehension. Rigorous training unconcerned with the psychopathology of fear will only aggravate the problem. The wisest course of action to deal with such people, will be counselling and psychotherapy. This will give them a sense of security and a feeling of belongingness which in turn will reduce their susceptibility to fear.

Mind and body are no more considered as separate entities. They are inter linked and are constantly in a state of interaction affecting each other and being affected by each other. An effective training programme should therefore aim at making the men not only physically tough but also mentally robust. Formulation of training programme should therefore be done under guidance of senior officers assisted by a psychologist. Once it is formulated, its implementation can be entrusted to the training instructors without hesitation.

Deployment : After completion of training, the troops are deployed in the regiments where they are kept well prepared to meet any eventuality on the borders of the country. Despite passing through the rigours of training, only 10 to 15 per cent of them can be called devil-daring. The rest of them do have fear. However majority of them can control their fear effectively. It is only about 5 to 10 per cent who, if not handled properly, can be a cause of fear to rest of the 80 per cent. Therefore to keep their fear in check and others immune to their fear-reaction, Commanding Officers are required to be as alert as the training instructors. In fact, the initial years of deployment are also a part of training only.

(a) *Keeping the men informed* : As the first step, troops should be kept correctly informed about all the fear-situations they are likely to come across. This will keep them alert and mentally prepared and they will not be taken unaware by the danger. Knowledge of danger reduces its gravity while the ignorance of it would aggravate the situation.

(b) *Discipline* : Discipline is an antidote to fear. When discipline becomes instinctive, fear becomes accidental. Discipline should therefore be kept fully alive through drills, inspection and exercises. Disciplined troops are almost immune to fear. It is

rightly stated that when obedience becomes an instinct, there is hardly any weapon in the armoury which can inflict fear on them.

(c) *Psychological Needs*: Fear can also be controlled by understanding the hierarchical structure of psychological needs of the troops followed by necessary efforts to satisfy the strongest ones. To quote Sir Archibald Wavell, "Napoleon did not gain the position he did, so much by a study of rules and strategy as by a profound knowledge of human nature". Notwithstanding varied needs the people have, some are generally common to most of them. Need for recognition is one which is strongly felt by most of us in our status-conscious society. How can this be used to help the troops control their fear is explained by a story attributed to Napoleon. At the siege of Toulon, an artillery officer built a battery in such an exposed position that it, was difficult to be manned. When Napoleon was told about it, he put up a placard displaying". The battery of men without fear". Consequent to this, the battery was found always manned.

Non-fulfilment of the human needs specially the psychological needs, leads to discontent which has been regarded as a strong ally of the fear. It leads to lack of self-confidence and low morale. Efforts should therefore be made to ensure that the troops are not unduly dissatisfied.

(d) *Personal Example*: An Officer is the repository of the confidence of his men. If he is with them fear cannot be there. Whether it is attack, defence or withdrawal, personal example set by the immediate commander would be a great source of strength to the troops. He will be a binding force for the whole group and will instill a constant stream of cohesiveness in them. It is therefore imperative for him in a war to crawl along the whole line, apprising them of the fast pace of events and encouraging them to keep in moving forward. Similarly in times of withdrawal, his calm appearance would prevent them from falling into panic and disorder.

(e) *Engaged mind*: In a war situation, the troops should be kept engaged in some sort of activity. It becomes essential when they are sitting in a defensive position and waiting for an attack. The long wait and suspense get on, their nerves. To keep fear out of their mind in such situation is a formidable task which calls for the highest standard of leadership on the part of immediate commander. As a first step he should see to it that a man is not left alone and idle. He can be engaged either in an oral appraisal of the war-situation or some physical activity pertaining to his weapons at hand.

(f) *Rest Pauses*: Fear and fatigue are related to each other. Fatigue reduces, the capacity to work and increases susceptibility to fear general Marshall is said to have stated that the more heavily the men are loaded and the farther they more susceptible they become to fear. A short break for rest at appropriate intervals in the process of work like long march may revive the spirits and thereby would keep the fear away. While setting targets and

devising plans to attain them, natural limits of human endurance and necessity for rest must be taken full account of.

(g) *Routine Welfare* : Whether it is peace area, routine patrolling at the borders or the combat situation, the immediate commander should pay full attention towards the routine necessities of troops like food, water, clothing, medicine, shelter etc. Efforts should also be made to the possible extent to help them in their family problems at home like schooling of children, medical care for the family, living accommodation etc. All these steps should go a long way to make their minds free from anxiety and apprehension. As a result, they will show little scope for development of obsessive and irrational fears known as phobias.

MANAGEMENT OF FEAR

Prevention is better than cure but it is not possible always to prevent the occurrence of fear. Reasons are several. First, it is not possible to recruit a force consisting entirely of fearless man. Secondly, it is not practical to leave the fear-prone men out of battle. Thirdly, military career abounds in fearful situations. As a result, occurrence of fear in a force is unavoidable. Immediate commander should therefore be competent not only to prevent the occurrence of fear but also to manage it effectively once it has crept into the force. A few suggestions in this direction are given below.

(a) To suppress the panic reactions, the officer should not act at panic speed. On the contrary, his actions should grant a few moments to the troops so that they can release their confusion to some extent and be in a state of receptivity.

(b) Attention of the troops should be diverted from source of panic by giving such instructions which would not block their movements but facilitate their expression in the orderly manner. For example, they can be instructed to reach a particular spot.

(c) Immediate priority in the state of panic is to restore order and remove confusion. To achieve this, the commander should appear to his troops unruffled and un baffled. He should convey by his gestures a firm and resolute character.

(d) After granting a few minutes for the release of panic, the commander should try to control their haphazard actions and put the same to an orderly shape.

(e) As soon as the state of panic is over, the troops should be engaged in some activity so that they do not have an idle mind to look back and repent. None of them should be allowed to find a scape-goat nor the commander should convey any displeasure or contempt at that moment.

To conclude, no man is born fearless. A good soldier is not one who is not afraid of danger. On the contrary, he is one who is afraid of danger but can control his own fear and exploit that of his enemy to his advantage.

A Unique Kumaoni Mother

BRIG N S RAWAT (RETD)

SOME seventy years ago, there lived in a small village of Chail Banuri, in Ranikhet (Almora District) a simple couple Mohan Singh Manral and his wife Bachuli. In 1925 Mohan got bitten by the urge to venture out for greener pastures, to better his prospects. He came to Naini Tal and got appointed as a Teacher in the Municipal Board School. Here by dint of hard work and ability he rose to be its Head Master.

During the emergency of 1939-45 war he volunteered for Army Service and was taken in the Army Education Corps. Here again his honest and dedicated work earned him a Commission and he was promoted a Captain by 1950. Five years later he was retired on pension, on attaining superannuation. Whilst in the army he got the opportunity of travelling a bit and meeting people of wider views. He got convinced that the best investment a father could make for his children (and he had eight of them) was to give them good education. He put these in local good schools, much to the chagrin of his contemporaries who used to taunt. "The primary school teacher has earned some money and he does not know what to do with it. He is aping the way of his betters".

Jagat, his eldest son, whilst studying in Birla Vidya Mandir, Nainital competed for entry into the IMA in 1956 and luckily got in. He got a commission in The Engineers in 1958, and thereby set the pace for his other brothers. Unfortunately Mohan fell ill soon after and died in Ramsay Hospital leaving all the heavy burden on his simple wife. This she did surprisingly well, thanks to the unexcelled sacrifices of Jagat and the guidance of eldest married daughter. Jagat sent home all the money he could save, and succeeded in filling the gap left by his father. The brothers, one and all reacted as expected. One by one they competed for the service in the army and got in. Jagat is a Lieut. Colonel, four are Majors, two Captains, now. So the colossal sacrifices made by the mother and her eldest son Jagat

have, by God's grace, borne fruit and remarkably well too. In entire Kumaon or even the U.P. there will be few mothers to excell this excellent record of service to the Nation; viz all seven sons in the Army and as Commissioned officers!

If any mother deserves public or Government recognition she verily does. Had such a case come to the notice of late dynamic Pratap Singh Kairon, the then Chief Minister of the Punjab, he would sure have visited her to offer personal salutations, and would have suitably honoured her to serve as an example.

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Secretary's Notes

ANNUAL SUBSCRIPTION

I would like to thank all those members who paid their subscription so promptly at the beginning of the year. To those of you who have not yet paid may I remind you that your subscription was due on the 1st January. Would you please, therefore, put a cheque in the post to me today. There are some members who have also to pay their subscription for 1983 and 1984. They are requested to make the payment for these years to avoid unnecessary reminders. Effective from 1 Jan 1971, the annual subscription has been raised from Rs 15 to Rs 20.

NON RECEIPT OF JOURNAL

It has been reported by many of our members that though annual subscription for membership of the Institution is being debited to their account regularly by their Bankers, they are not receiving the USI Journal for quite sometime. The non receipt of the Journal is because either the members have failed to notify change of address, or their Bankers have not duly sent the credit to the Institution or while sending the credit they have not given full and correct particulars of the members making it difficult to identify him in the ledger account. All these factors create accounting problems and result in names of members getting dropped from the mailing list.

It is requested that all members who have continued to send up-to-date subscription through their Bankers and are not receiving the USI Journal may kindly intimate to me direct their latest address and membership number so that the USI Journal could be sent to them immediately. They are also requested to write to their Bankers that while sending annual subscription to Institution, their membership number, correct name with units and latest address is invariably given.

INSTITUTIONS BANKERS

Grindlays Bank Parliament Street, New Delhi, ceased to be our bankers for all purposes. Kindly note that Our bankers are Syndicate Bank, Extension Counter, South Block, New Delhi-11 (A/c No. 513477). All the members may kindly note the change.

In case any of the members have issued standing instructions to their bankers for the payment of Subscription fee to this Institution, we shall request them to issue revised instructions to their bankers under intimation to the Secretary, United Service Institution of India.

SUGGESTIONS FOR THE JOURNAL

The USI Journal is in its 115th year of publication. As you will, no doubt appreciate, the Institution spends a great deal of its funds on producing this publication. We would like to have your comments, criticism and suggestions so that we may improve this publication to meet your requirement.

UNITED SERVICE INSTITUTION OF INDIA
USI GOLD MEDAL PRIZE ESSAY COMPETITIONS—1984-85

Subjects

(A) OPEN TO ALL OFFICERS

In the wake of growing fissiparous trends in some of the regions in our country, the need for revitalising the forces that promote national integration has become more pronounced. Discuss the nature of the current disintegrating scene and suggest measures that could be taken in bringing about greater harmony in this situation.

(B) OPEN TO OFFICERS UP TO THE RANK OF MAJOR WITH NOT MORE THAN TEN YEARS SERVICE AND THEIR EQUIVALENTS IN NAVY AND AIR FORCE

Command tenures are no longer said to be attractive at unit level. It is said that most unit commanders are merely "filling a slot", to get the right Annual Confidential Reports with a view to enhancing their own careers.

Is this really so? If so what are the remedial measures you could propose and how should these be implemented? If not, how and why is this type of canard being circulated. What measures would you propose to counter it?

RULES

1. Competition (A) is open to all commissioned officers of the Armed Forces of India, the United Kingdom and other Commonwealth countries, officers of the Territorial Army and the Senior Division of National Cadet Corps and Gazetted Officers of the Civil administration in India.
2. Competition (B) is restricted to officers up to the Rank of Major with not more than ten years service and their equivalents in Navy and Air Force.
3. Essay may vary in length between 4,000 to 8,000 words. Should any authority be quoted in essay, the title of the works referred to should be given.
4. Essays should be typed on one side of the paper (double spacing) and should be in TRIPLICATE.
5. Entries will be strictly ANONYMOUS. Each essay must have a motto at the top instead of the author's name and must be accompanied by a

sealed envelope with the motto outside and with the name and address of the competitor inside. These envelopes will be opened by the Chairman of the Executive Committee at the Council's meeting, after the judges have given their decision.

6. The judges will have two criteria in mind :—

(a) The extent to which the contribution throws fresh light on the subject ; and

(b) Whether in whole or in large part it is in a form suitable for publication.

7. Three judges chosen by the Council will adjudicate. They may recommend the Gold Medal to the winner and/or a cash prize, as well as cash prize to the runner-up (subject to the sanctioned limit of Rs 700/- in all, for prizes) and will submit their recommendations to the Council. The name of the successful candidate will be published in USI Journal.

8. The award of the judges appointed by the Council of the Institution is final.

9. The Institution reserves the right not to make an award if none of the essays submitted reaches standard which the judges consider adequate.

10. Copyright of all essays submitted will be reserved by the Council of the United Service Institution of India.

11. All essays should be sent to the Secretary, United Service Institution of India, Kashmir House, Rajaji Marg, New Delhi-110011; to be received not later than 31 Oct 1985. The envelope should be marked as follows :

(a) OPEN TO ALL

“Essay Competition (A)”

(b) OPEN TO OFFICERS UP TO
THE RANK OF MAJOR AND
EQUIVALENT RANKS IN
NAVY AND AIR FORCE

“Essay Competition (B)”

THE MacGREGOR MEMORIAL MEDAL

The MacGregor Memorial Medal Fund was founded in 1888 as a memorial to the late Major General Sir CHARLES MacGREGOR who founded the United Service Institution of India. The Medals are awarded for the best military reconnaissances or journeys of exploration of the year.

The following awards are made annually in the month of June :—

- (a) For Officers — Silver Medal
- (b) For other personnel — Silver Medal with Rs 100/- gratuity

For specially valuable work, a gold medal may be awarded in place of one of the silver medals, or in addition to the silver medals, whenever the administrators of the Fund deem it desirable. Also the Council may award a special additional silver medal without gratuity to personnel mentioned in 2 (b) above for specially good work.

The award of medals is made by the Chief of the Staff of the Service concerned, on the recommendation of the Council of the United Service Institution of India.

The following are eligible for the award, whether at the time of the reconnaissance they were in military or civil employ :—

- (a) Service Personnel of the Army, Indian Navy and the Indian Air Force.
- (b) Service Personnel of the Army, Navy and Air Force of the Commonwealth Forces, while serving on the Indian establishment,

Note:— The term "Army" includes the Territorial Army, Reserve Forces, Assam Rifles and Militias.

The medal may be worn on uniform by soldiers, airmen and ratings of the Armed Forces on ceremonial parades, in such manner as may be prescribed under their respective regulations.

Personal risk to life during the reconnaissance or exploration is not a necessary qualification for the award of the medal; but in the event of two journeys being of equal value, the man who has incurred the greatest risk will be considered to have the greater claim to the award.

When the work of the year has either not been of sufficient value or notice of it has been received too late for consideration before the Council meeting the medal may be awarded for any reconnaissance during previous years considered by the Chief of the Staff of the Service concerned to deserve it.

U S I

(Estd. 1870)

OUR ACTIVITIES

Library Service

ONE of the oldest and finest military libraries in India, today it has over 25,000 books, some of them dating back to 16th and 17th centuries. The Library continues to supply books to members outside Delhi—a unique service which U.S.I. is proud to render in the cause of promoting the study of Military Art, Science and Literature.

Correspondence Courses

THE introduction of Correspondence Courses for promotion and Defence Service Staff College examinations some years ago found ready response and today the Institution has 4500 members who participate in the Training Courses. Material is despatched to them regularly wherever they may be.

The students have undoubtedly profited by these courses, as evidenced by the success achieved by them in these Examinations. Popularity apart, the courses contribute substantially to the revenue of the U.S.I.

USI Journal

OLDEST Journal in India, it contains proceedings of lectures and discussions, prize essays, original articles, book reviews, etc.

Rules of Membership

1. All officers of the Defence Services and all gazetted officials shall be entitled to become members, without ballot, on payment of the entrance fee and subscription.

Other gentlemen may become members if proposed and seconded by a member of the Institution and approved by the Council. They will be entitled to all privileges of membership except voting.

2. Life Members of the Institution shall be admitted on payment of Rs. 270/- which sum includes entrance fee.

3. Ordinary Members of the Institution shall be admitted on payment of an entrance fee of Rs. 20/- on joining and an annual subscription of Rs. 20/- to be paid in advance.

For further particulars, write to Secretary, USI, Kashmir House, Rajaji Marg, New Delhi-110011.

It is published quarterly in April, July, October and January each year. (the first issue being Jan-Mar each year). The Journal is supplied free to members. It provides a forum for the most junior officer to express his opinions relating to his profession.

Gold Medal Essay Competitions

THE gold medal essay competition is held every year. The subject for essay is announced during the month of March each year. On the occasion of the Centenary, an additional Gold Medal Essay Competition has been instituted for Junior Officers of not more than ten years' service.

Lectures and Discussions

A series of lectures by outstanding experts on service, international affairs and topics of general interest to the Services are organised for the benefit of Local Members in Delhi.

MacGregor Medal

THIS medal is awarded every year to officers for any valuable reconnaissance they may have undertaken.